ORDER No. AD9912264C3

Portable CD Player

SL-CT570

Traverse Deck: RAE0220Z Mechanism Series

Colours

(S).....Silver Type

(A).....Blue Type

Areas

GK.....China.

GH.....Hong Kong.

SPECIFICATIONS

Specification

● **Audio (Anti-shock off)**

No. of channels:	**2 channels (left and right, stereo)**
Frequency response:	**20 to 20,000 Hz (+0.5dB, -1.5dB)**
Output voltage:	**0.6 V (50k Ω)**
S/N:	**more than 96 dB**
Wow and flutter:	**Below measurable limit**
DA converter:	**1 bit, MASH**
Headphones output level:	**Max. 9mW+9mW/ 16 Ω / (adjustable)**

● **Pickup**

Light source:	**Semiconductor laser**
Wavelength:	**780 nm**

● **General**

Operational temperature range:	**0°C-40°C**
Rechargeable temperature range:	**5°C-40°C**
Power supply	**DC 4.5V**

● **Power consumption**

Power source	**ANTI-SHOCK MEMORY II OFF/ ON**
AC adaptor	**2.4W/ 2.4W**
Battery (DC 3V)	**0.47W/ 0.52W**
When recharging:	**Approx. 5.1W**

● **Play time**

[When used in hold mode, at 25°C (77°F) temperature and on flat and stable surface]

Batteries used	ANTI-SHOCK MEMORY II OFF/ ON
2 ”AA” (LR6) alkaline batteries	About 24h/ 30h
2 “AAA” (LR03) alkaline batteries	About 10h/ 13h
Ni-MH Rechargeable batteries	About 6h/ 8h
4 alkaline batteries	About 38h/ 50h
2 rechageable and 2 alkaline / batteries	About 30h/ 38h

The play time may be less depending on the operating conditions.

Recharging time:	About 3h
Dimensions (WxHxD)	128x20.8x131mm
Weight:	191g (with batteries) 169g (without batteries)

Notes:

Specifications are subject to change without notice.

Weight and dimensions are approximate.

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Panasonic®

1. Precaution of Laser Diode

CAUTION:

This product utilizes a laser diode with the unit turned “on”, invisible laser radiation is emitted from the pickup lens.

Wave length: 780nm
Maximum output radiation power from pickup: 100 μ W/VDE
Laser radiation from the pickup lens is safety level, but be sure the followings:

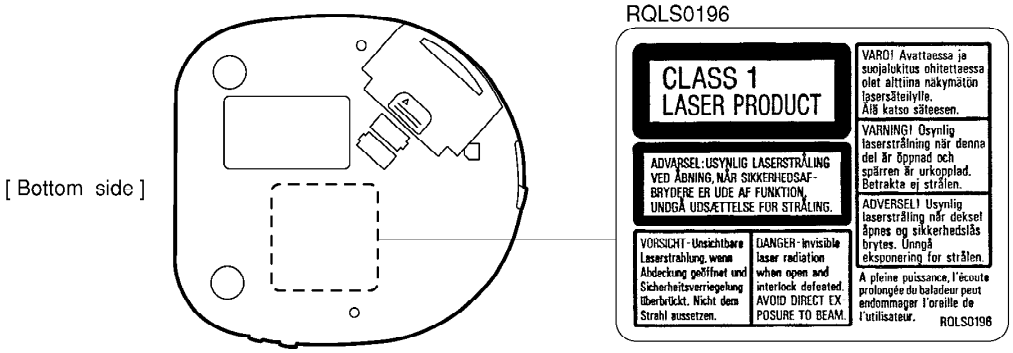
1. **Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.**
2. **Do not adjust the variable resistor on the pickup unit. It was already adjusted.**
3. **Do not look at the focus lens using optical instruments.**
4. **Recommend not to look at pickup lens for a long time.**

ACHTUNG:

Dieses Produkt enthalt eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Leserstrahlung von der Lasereinheit abgestrahlt.
Wellenlage: 780nm
Maximale Strahlungsleistung der Lasereinheit: 100 μ W/VDE
Die Strahlung an der Lasereinheit ist ungefahrlich, wenn folgende Punkte beachtet werden:

1. **Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdisde gefahrlich ist.**
2. **Den werkseitig justierten Einstellregler der Lasereinhit nicht verstellen.**
3. **Nicht mit optischen Instrumenten in die Fokussierlines blicken.**
4. **Nicht uber langere Zeit in die Fokussierlines blicken.**

ADVARSEL: I dette a apparat anvendes laser.


[Bottom side]
RQLS0196
CLASS 1
LASER PRODUCT
ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAF-BRYDERE ER UDE AF FUNKTION, UNDGÅ UDSÆTTELSE FOR STRÅLING.
VORSICHT - Unsichtbare Laserstrahlung, wenn Abdeckung geöffnet und Sicherheitsverriegelung überbrückt. Nicht dem Strahl aussetzen.
DANGER - Invisible laser radiation when open and interlock defeated. AVOID DIRECT EXPOSURE TO BEAM.
VARO! Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymätön lasersäteilylle. Älä katso säteeseen.
VARNING! Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.
ADVERSEL! Usynlig laserstråling når dekset åpnes og sikkerhedslås brytes. Unngå eksponering for strålen.
A pleine puissance, l'écoute prolongée du baladeur peut endommager l'oreille de l'utilisateur.
RQLS0196

2. Accessories

- AC adaptor.....1 pc.
  (RFEA403H-S)
- Wired remote control.....1 pc.
  (RFEV027P-SS)
- Battery case.....1 pc.
  (RFA1139-H)
- Stereo earphones.....1 pc.
  (RFEV319P-SA)
- Rechargeable battery.....1 pc.
  (RFKFHHR4AHBA)
- Battery carrying case.....1 pc.
  (RXQ0449)
- Soft case.....1 pc.
  (RFC0041-K)

3. Location of Controls

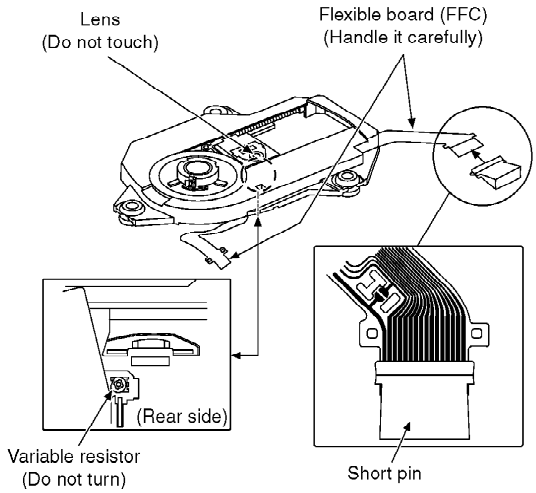
4. Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body.
So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

4.1. Handling the traverse deck (optical pickup)

1. **The traverse deck (optical pickup) is an extremely high-precision construction and must not be subjected to impact, excessive vibration, or other types of rough handling.**
2. **In order to prevent static electricity damage to the laser diode, use a short pin or similar tool to short the optical pickup's flexible circuit boards after they have been disconnected from the main circuit board.**
3. **Handle the flexible circuit boards with care; excessive force could cause them to be broken.**
4. **Do not turn the pre-set variable resistor (for adjustment of the laser power); it has been adjusted at the factory.**
   (as shown in Fig.1)

Fig.1



4.2. Grounding for electrostatic breakdown prevention

1. **Human body grounding**
   Use the anti-static wrist strap to discharge the static electricity from your body. (as shown in Fig.2)
2. **Work table grounding**
   Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed, and fround the sheet. (as shown in Fig.3)

Caution

The static electricity of your clothes will not be grounded through the wrist strap.
So, take care not to let your clothes touch the traverse deck (optical pickup).

Fig.2

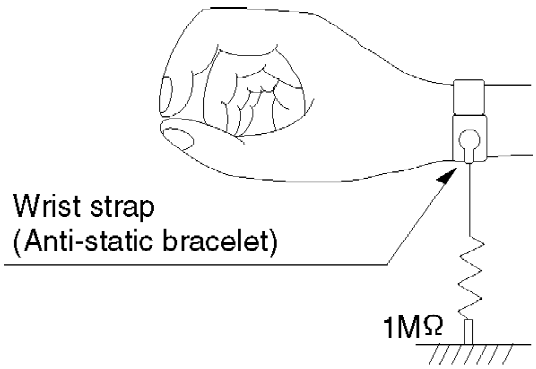
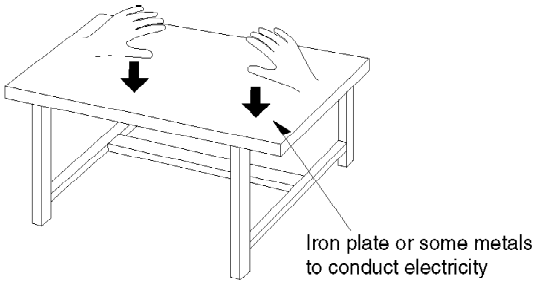


Fig.3



5. Operation Checks and Component Replacement Procedures

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

• Contents

■ **Checking Procedures for each P.C.B.**
1. Checking for the main P.C.B..

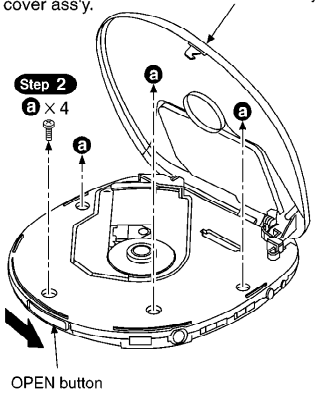
■ **Main Component Replacement Procedures**
1. Replacement for the CD cover ass'y.
2. Replacement for the traverse deck ass'y.
3. Replacement for the traverse motor and optical pickup.

■ Checking Procedures for Each P.C.B.

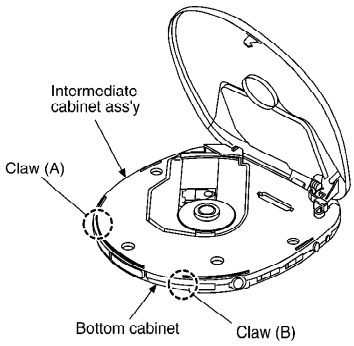
1. Checking for the main P.C.B.

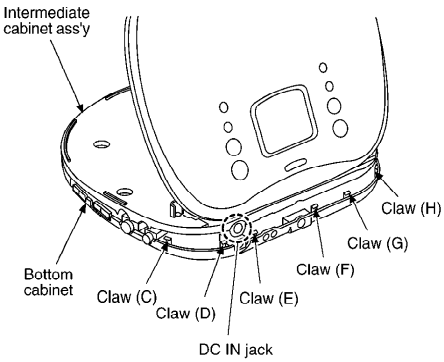
〈Checking for the main P.C.B. (A side)〉

Step 1
Pressing the OPEN button, open the CD cover ass'y.



Step 3
Spread the clearance between the bottom cabinet and intermediate cabinet ass'y manually.



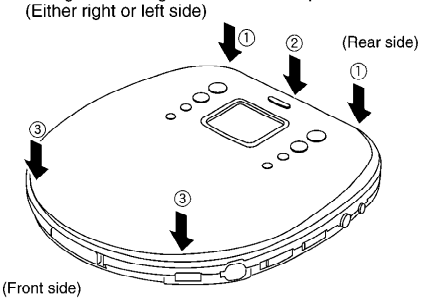


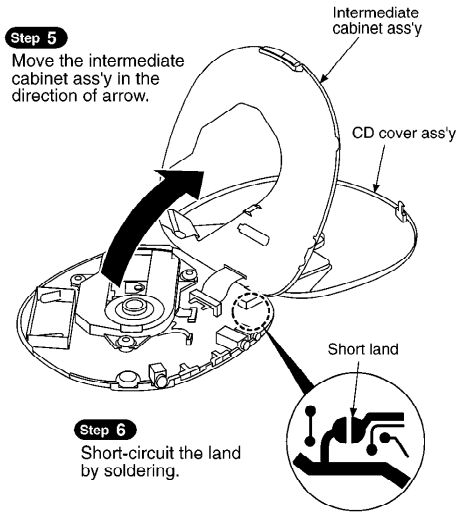
Step 4
Open the clearance between the bottom cabinet and intermediate cabinet ass'y, and then release the claw (C) to claw (H) in turn.

NOTE
Take care not to break the DC IN Jack provided with intermediate cabinet.

■ CD cover ass'y and intermediate reassembly procedure

① Fit together right side and left side of rear part. (Either right or left side)
② Fit together the center of rear part.
③ Fit together the right and left of front part. (Either right or left side)

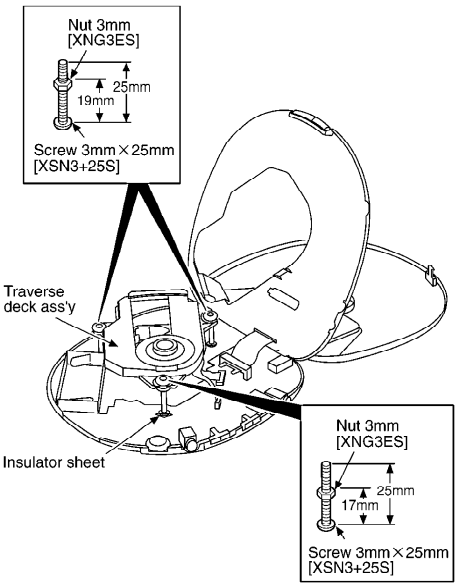




Step 5
Move the intermediate cabinet ass'y in the direction of arrow.

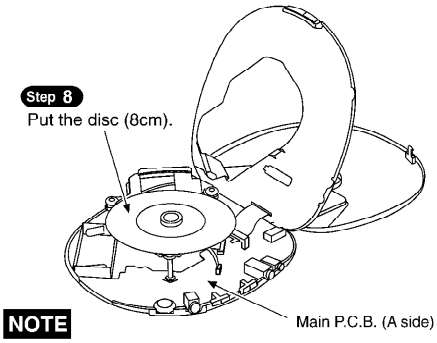
Step 6
Short-circuit the land by soldering.

Step 7
Sustain the traverse deck ass'y with the floating rubber inserted screws and nuts as shown below.



NOTE
- The tip of screw must not protrude more than 2 mm above the floating rubber.
- To keep insulation, place the insulator sheet (paper etc.) between the P.C.B. and the head of screws.

- **Check the main P.C.B. (A side) as shown below.**

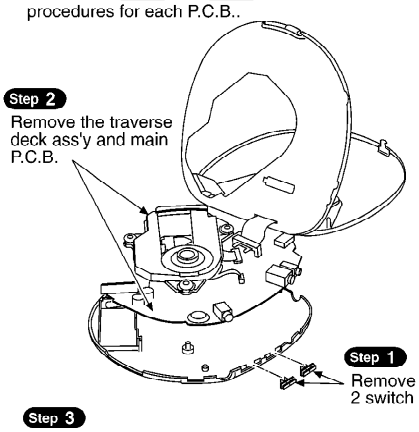


Step 8
Put the disc (8cm).

NOTE
After checking, unsolder the short land to open circuit.

〈Checking for the main P.C.B. (B side)〉

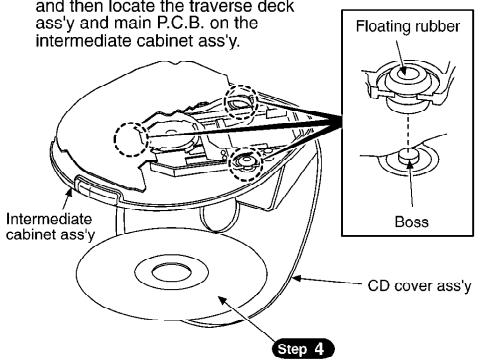
- Follow the **Step 1** ~ **Step 6** of the item 1 in checking procedures for each P.C.B..



Step 2
Remove the traverse deck ass'y and main P.C.B.

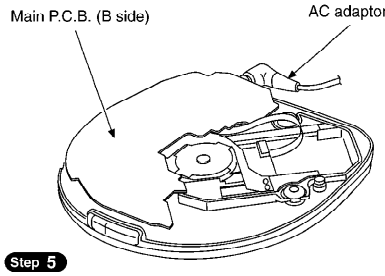
Step 1
Remove the 2 switch knobs.

Step 3
Align the floating rubbers with bosses, and then locate the traverse deck ass'y and main P.C.B. on the intermediate cabinet ass'y.



Step 4
Put the test disc, and then close the CD cover ass'y.

· Check the main P.C.B. (B side) as shown below.



Step 5

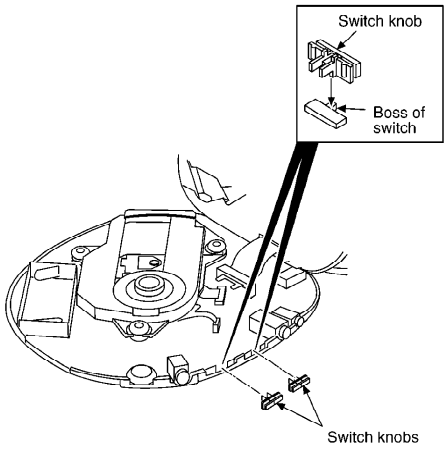
Insert the AC adaptor plug into the DC IN jack, and then apply the power.

NOTE

After checking, unsolder the short land to open circuit.

Notice for installation of switch knobs

· Make sure the bosses of switch are fit in the switch knobs.



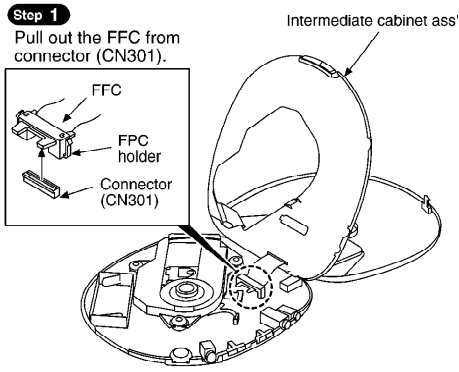
■ Main Component Replacement Procedures

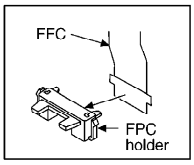
1. Replacement for the CD cover ass'y and LCD

· Follow the **Step 1** ~ **Step 5** of the item 1 in checking procedures for each P.C.B..

Step 1

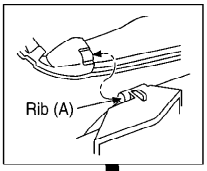
Pull out the FFC from connector (CN301).





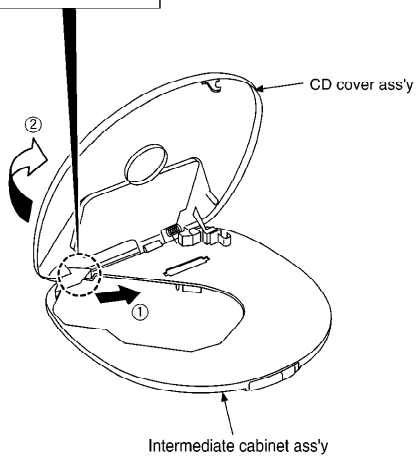
Step 2

Remove the FPC holder from FFC.



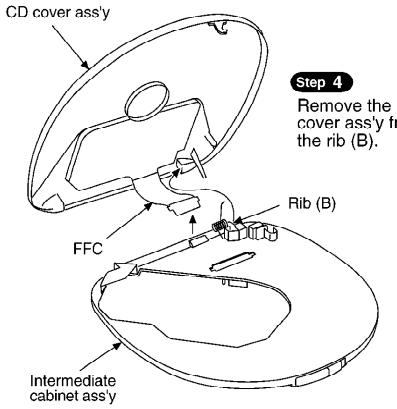
Step 3

Bend the intermediate cabinet ass'y in the direction of arrow ①, and then release the CD cover ass'y from the rib (A).



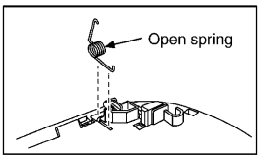
Step 5

Draw the FFC from the intermediate cabinet ass'y. (Take care not to damage the FFC.)



Step 4

Remove the CD cover ass'y from the rib (B).



NOTE

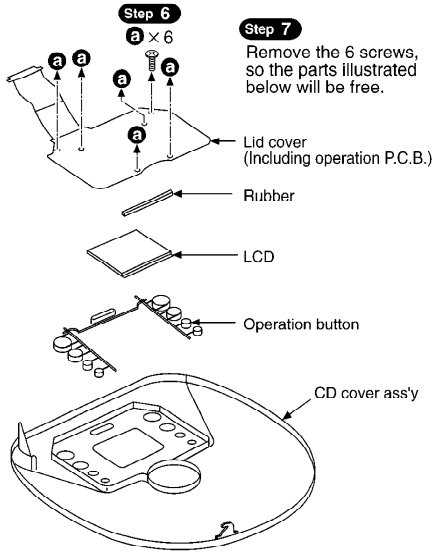
Take care not lose the open spring.

Step 6

ⓐ × 6

Step 7

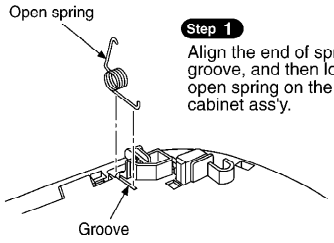
Remove the 6 screws, so the parts illustrated below will be free.



NOTE

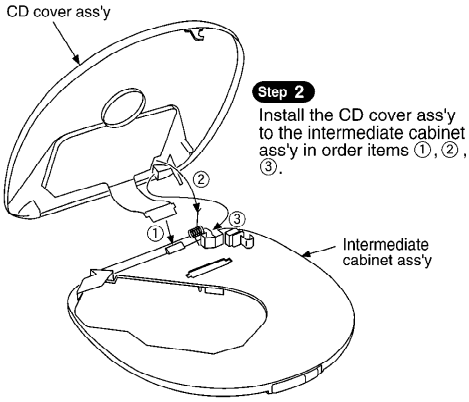
Be careful not to be applied the dust or smudge on the surface rubber.

Installation of CD cover ass'y



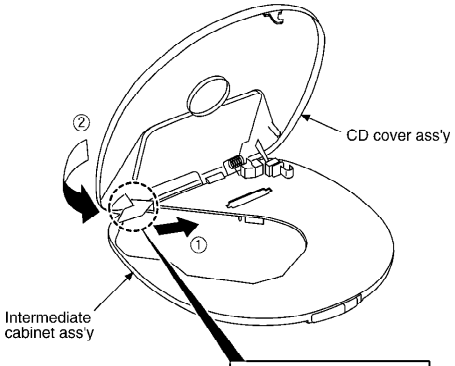
Step 1

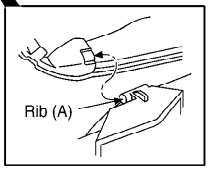
Align the end of spring with the groove, and then locate the open spring on the intermediate cabinet ass'y.



Step 2

Install the CD cover ass'y to the intermediate cabinet ass'y in order items ①, ②, ③.



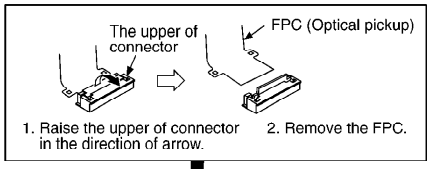


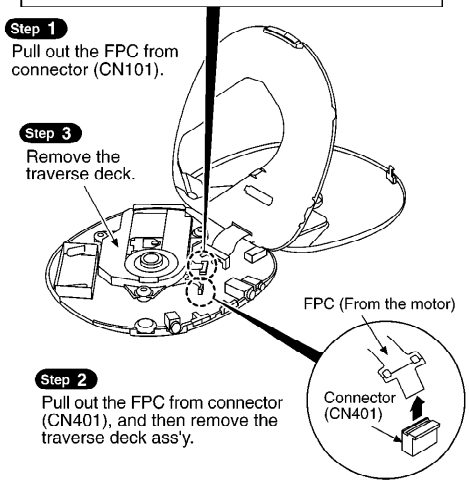
Step 3

Bend the intermediate cabinet ass'y in the direction of arrow ①, and then align the CD cover ass'y with the rib (A).

2. Replacement for the traverse motor and optical pickup

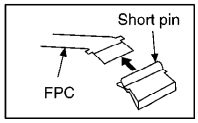
・Follow the Step 1 ~ Step 5 of the item 1 in checking procedures for each P.C.B..

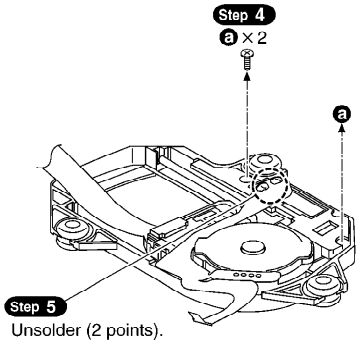


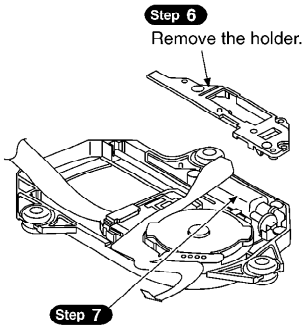

Step 1
Pull out the FPC from connector (CN101).
Step 3
Remove the traverse deck.
FPC (From the motor)
Step 2
Pull out the FPC from connector (CN401), and then remove the traverse deck ass'y.
Connector (CN401)

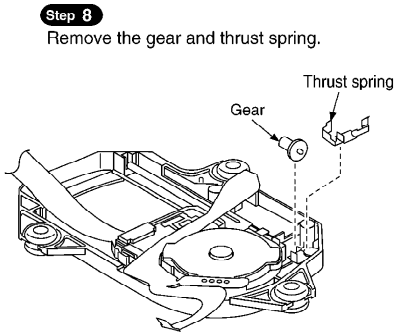
NOTE

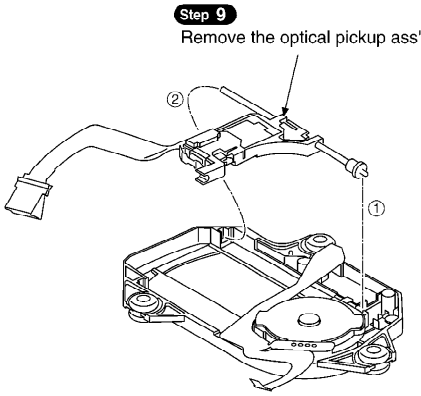
Insert a short pin into the traverse deck's FPC. (Refer to "**Handling Precautions for Traverse Deck**".)

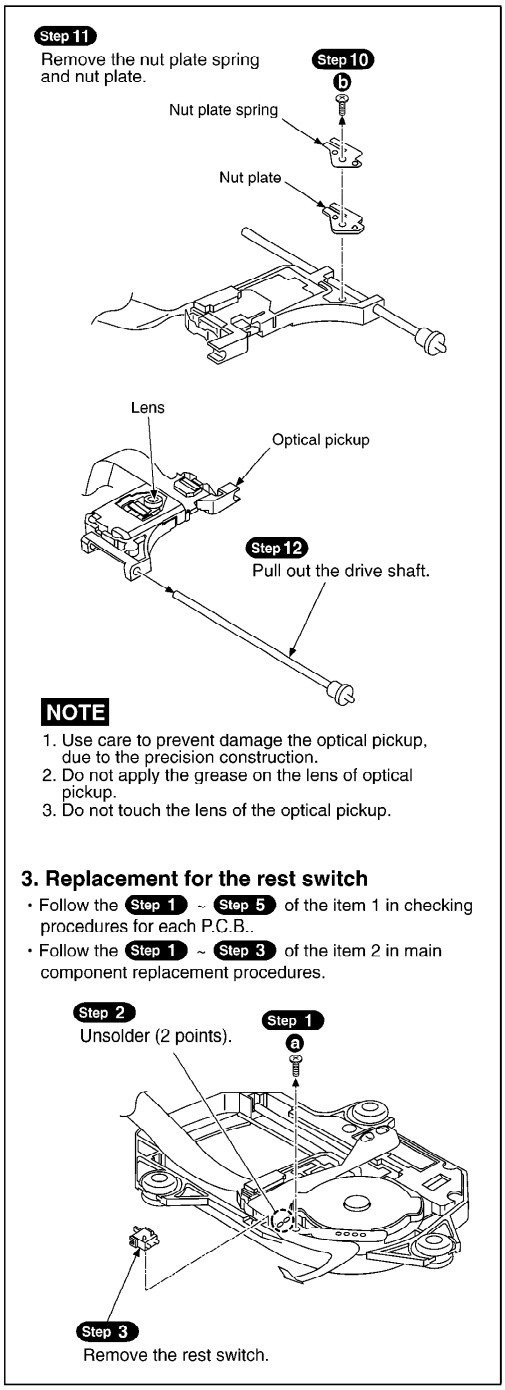












NOTE

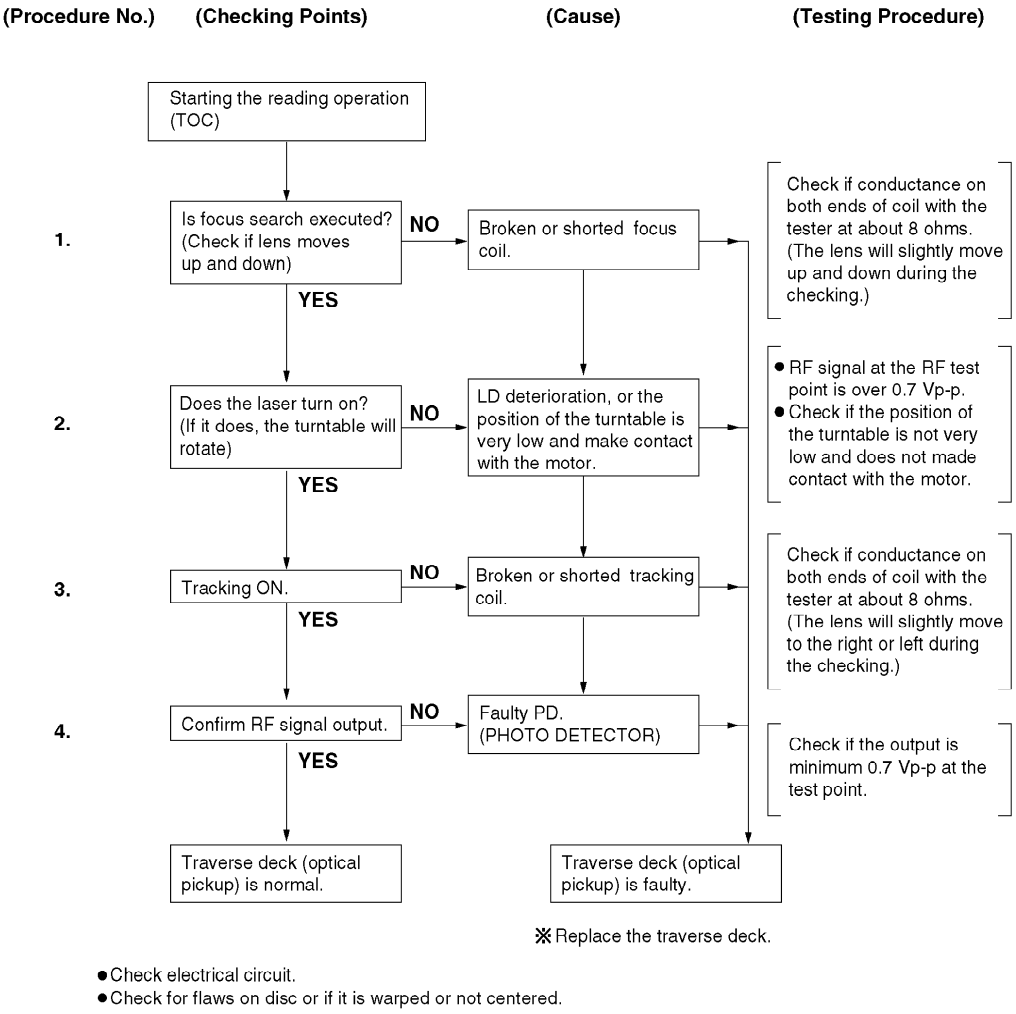
1. Use care to prevent damage the optical pickup, due to the precision construction.
2. Do not apply the grease on the lens of optical pickup.
3. Do not touch the lens of the optical pickup.

3. Replacement for the rest switch

- Follow the Step 1 ~ Step 5 of the item 1 in checking procedures for each P.C.B..
- Follow the Step 1 ~ Step 3 of the item 2 in main component replacement procedures.

6. Checking the Operation Problems on the Traverse Deck (Optical Pickup)

Make sure to follow the procedures below to check the operation problems of the traverse deck (optical pickup) before replacing it.
Replace the traverse deck only after the problem is identified.


(Procedure No.)
(Checking Points)
(Cause)
(Testing Procedure)
Starting the reading operation (TOC)
1.
Is focus search executed? (Check if lens moves up and down)
NO
Broken or shorted focus coil.
YES
Check if conductance on both ends of coil with the tester at about 8 ohms. (The lens will slightly move up and down during the checking.)
2.
Does the laser turn on? (If it does, the turntable will rotate)
NO
LD deterioration, or the position of the turntable is very low and make contact with the motor.
YES
● RF signal at the RF test point is over 0.7 Vp-p.
● Check if the position of the turntable is not very low and does not made contact with the motor.
3.
Tracking ON.
NO
Broken or shorted tracking coil.
YES
Check if conductance on both ends of coil with the tester at about 8 ohms. (The lens will slightly move to the right or left during the checking.)
4.
Confirm RF signal output.
NO
Faulty PD. (PHOTO DETECTOR)
YES
Check if the output is minimum 0.7 Vp-p at the test point.
Traverse deck (optical pickup) is normal.
Traverse deck (optical pickup) is faulty.
※Replace the traverse deck.
● Check electrical circuit.
● Check for flaws on disc or if it is warped or not centered.

● **Check the operations described below on the traverse deck after replacing it.**

***Checking Skip Search**

1. Play an ordinary musical program disc.

2. Press the skip button to check for normal skip search operation (in both the forward and reverse directions).

***Checking Manual Search**

1. Play an ordinary musical program disc.

2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and reverse directions).

***Checking Playability**

1. Play the 0.7 mm black dot and the 0.7 mm wedge on the playability test disc (SZZP1054C) and verify that no sound skip or

noise occurs.

2. Play the middle tracks of the uneven test disc (SZZP1056C) and verify that no sound skip or noise occurs.

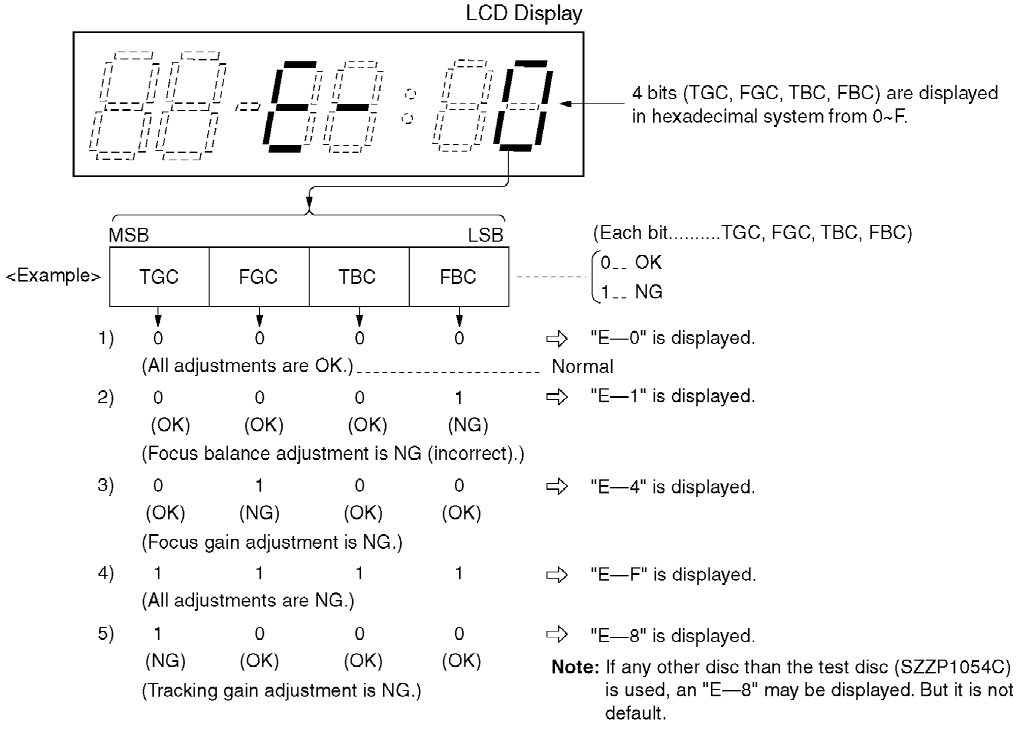
7. Automatic Adjustment Results Display Function (Self-check Function)

On this unit (SL-CT570), each automatic adjustment results are displayed on the LCD. This function is convenient to check or identify which automatic adjustment circuit is incorrect. The followings are the contents of the automaticadjustment result displays (self-check function). (Using the new Servo IC: MN662784SA)

7.1. How to display automatic adjustment results

1. Load the test disc (SZZP1054C).
2. Press the ⏮ (SKIP/SEARCH) and ⏭ (SKIP/SEARCH) Buttons simultaneously and hold them, and additionally pressthe ⏯ (PLAY/PAUSE) Button.
3. Press the ■ (OPR OFF) Button once.
4. An automatic adjustment result is displayed on the LCD.

7.2. Display of automatic adjustment results (self-check function)


LCD Display
4 bits (TGC, FGC, TBC, FBC) are displayed in hexadecimal system from 0~F.
MSB
LSB
(Each bit.....TGC, FGC, TBC, FBC)
0 OK
1 NG
<Example>
TGC
FGC
TBC
FBC
1) 0 0 0 0 ⇨ "E—0" is displayed.
(All adjustments are OK.) Normal
2) 0 0 0 1 ⇨ "E—1" is displayed.
(OK) (OK) (OK) (NG)
(Focus balance adjustment is NG (incorrect).)
3) 0 1 0 0 ⇨ "E—4" is displayed.
(OK) (NG) (OK) (OK)
(Focus gain adjustment is NG.)
4) 1 1 1 1 ⇨ "E—F" is displayed.
(All adjustments are NG.)
5) 1 0 0 0 ⇨ "E—8" is displayed.
(NG) (OK) (OK) (OK)
(Tracking gain adjustment is NG.)
Note: If any other disc than the test disc (SZZP1054C) is used, an "E—8" may be displayed. But it is not default.

<Example>
Follow the below steps when “E-1” is displayed.
(Cause: Focus balance (FBC) is set beyond the limit.)

● **Check if**

(1) the waveform or voltage of the focus servo circuit is correct. (check the waveform or voltage.)
(2) the optical pickup returns to the normal state by exchanging the traverse deck.
Follow the below steps when “E-4” is displayed.
(Cause: Focus gain (FGC) is set beyond the limit.)

● **Check if**

(1) the waveform or voltage of the focus servo circuit is correct. (check the waveform or voltage.)
(2) the focus coil of the optical pickup is correct (around 15 ohms).
(3) the optical pickup returns to the normal state by exchanging the traverse deck.
Follow the below steps when “E-F” is displayed.
(Cause: All adjustments (TGC, FGC, TBC, FBC) are set beyond the limit.)

● **Check if**

(1) the optical pickup returns to the normal state by exchanging the traverse deck.
(2) the waveform or voltage of the servo IC’s are correct. (check the waveform or voltage.)
Note:
It is not always necessary to exchange the traverse deck when an error message is displayed.
Be sure to check if the circuit is defective or not before exchanging the traverse deck.

Note:
If any other disc than the test disc (SZZP1054C) is used, an error message may be displayed.
This is not a malfunction.

8. Measurements and Adjustments

Warning:
This product uses a laser diode. Refer to caution statements.

ACHTUNG:

- Die lasereinheit nicht zerlegen.
- Die lasereinheit darf nur gegen ein vom hersteller spezifizierte einheit ausgetauscht werden.

● **Measuring instruments and special tools**

- Test discs
1. Playability test disc (SZZP1054C)
2. Uneven test disc (SZZP1056C)
- Musical program disc (ordinary)

- DC voltmeter
- Lead wire (for test points)

● **Test short land**

Short-circuit the lands of the laser ON/OFF swtch (S201) by soldering them. It turns "ON" position. (Refer to below or "12. Printed Circuit Board and Wiring Connection Diagram" for shortland location)

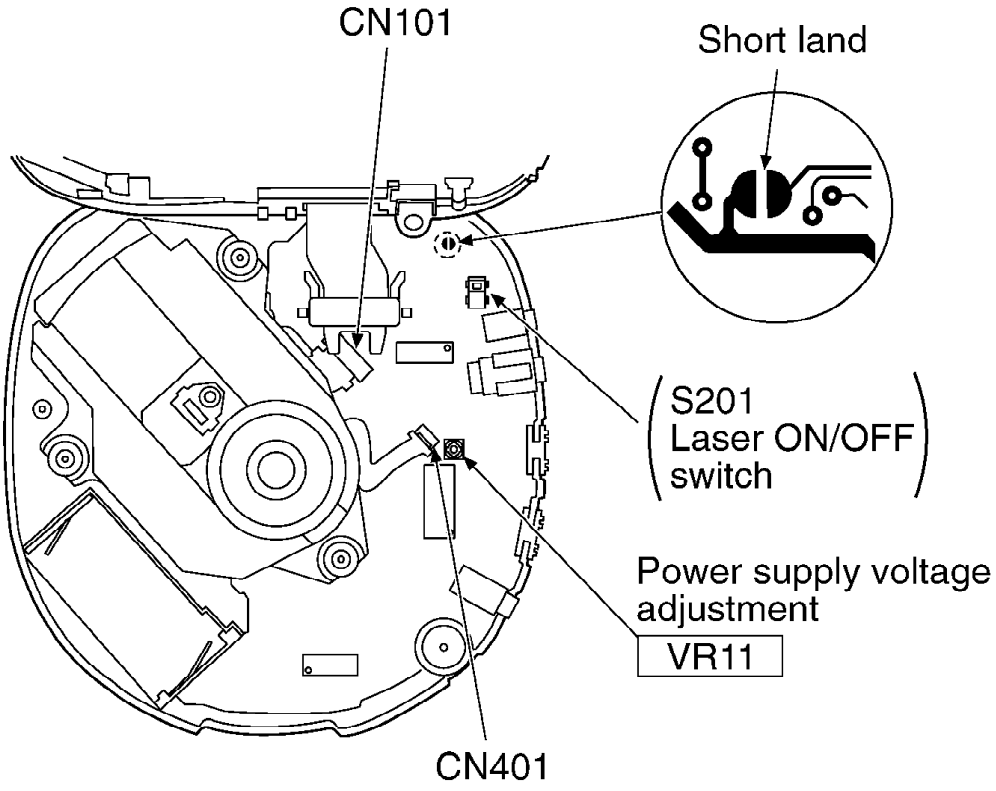
Note: Remove the solders from the short lands after adjustment.

● **Adjustment point**

Notes:

1. **Please refer to "12. Printed Circuit Board and Wiring Connection Diagram" for test point locations.**
2. **Take care to connect CN101 and CN401. (as shown in Fig. 4)**

Fig. 4



8.1. Power Supply Voltage Adjustment

1. Connect the DC voltmeter to VDD(+) and GND on the P.C.B..
2. Connect the AC adaptor cord to the DC IN port (or use the full-recharged rechargeable battery, a new article batteries) and load the test disc (SZZP1054C).
3. Select the EQ key in “OFF” position with the test disc is to be playing by pressing the ▶❚❚ button. Next to it, press the ■ (OPR OFF) button and be in TOC reading situation.
4. Adjust VR11 on the P.C.B. at 2.45+/- 0.02V (EQ switch in “ Normal ” position), as shown in .

8.2. Check of Play Operation

***Checking Skip Search**

1. Play an ordinary musical program disc.
2. Press the skip button to check for normal skip search operation (in both the forward and reverse directions).

***Checking Manual Search**

1. Play an ordinary musical program disc.
2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and reverse directions).

***Checking Playability**

1. Play the 0.7 mm black dot and the 0.7 mm wedge on the playability test disc (SZZP1054C) and verify that no sound skip or noise occurs.
2. Play the middle tracks of the uneven test disc (SZZP1056C) and verify that no sound skip or noise occurs.

9. Outline of 40-Second Sound Keeper Technique Used for Prevention of Sound from Skipping

9.1. Conventional Shockproofing Technique

(LCD Display: A Shock 10)

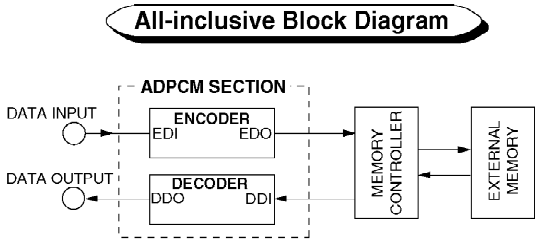
Input information read out of the CD at double speed is demodulated, stored in the memory, and while sound-marking signal is supplied at normal speed from the memory to the D/A converter, the residual data is accumulated in the memory.
If reaccess to the break point is accomplished before the memory becomes empty, apparent playback sound is entirely kept free from breaking even when information pauses due to vibration, etc. It was necessary to use the 16M bit memory for securingthe accumulation time of about 10 seconds.

9.2. Compression-shockproofing [Outline]

(LCD Display: A Shock 40)

Fig.5 is a block diagram showing the compression-shockproofing mechanism, the difference of which from the conventional mechanism is as follows: Input information read out at double speed undergoes datacompression (16 bits -- 4 bits) by the encoder in the ADPCM (Adaptive Difference PCM) and stored in the external memory; the stored memory information undergoes data elongation (4 bits -- 16 bits) by the decoder in the ADPCM and supplied at normalspeed to the D/A converter.
The data compression technique has conduced to reduction of required memory capacity from 16M bits to 4M bits for securing the accumulation time equivalent to the conventional.

Fig.5



10. Schematic Diagram Note

10.1. Type Illustration of IC's, Transistors and Diodes

10.2. Schematic Diagram Notes

Notes:

- S201: Laser ON/OFF switch in “OFF” position.
(It turns “ON” with disc holder closed.)
- S202: Rest detector in “OFF” position.
(It turns “ON” when optical pickup comes to innermost periphery.)
- S309: Play mode selector (MODE) in “NORMAL” position.
(RESUME ⟺ RANDOM ⟺ NORMAL)
- S310: Hold (HOLD) switch in “OFF” position.
- S801: Play/pause (▶❚❚) switch.

- S802: Stop/power off (■OPR OFF) switch.
- S803: Repeat ( )switch.
- S804: 40sec. Anti-shock (ANTI-SHOCK MEMORY II) switch in "OFF" position.
- S805: EQ slector (EQ) in "OFF" position.
- S806: Memory/recall (MEMORY/RECALL) switch.
- S807, 808: Skip/search (▶▶ / ▶▶\|, \|◀◀ / ◀◀)
- S809: Residual battery display (BATT CHECK) switch.
- VR11: Power supply voltage adjustment.
- VR701-1,2: Headphones volume (VOLUME) control.
- Components identified by ⚠ mark have special characteristics important for safety.
- When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
- The supply part number is described alone in the replacement parts.
- Signal line
- : Positive voltage line.
- : CD playback signal line.
- The voltage value and waveforms are the reference voltage of this measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of GND terminal (DC IN Jack). Accordingly, there may arise some errors in the voltage valuesand waveforms depending upon the internal impedance of the tester or measuring unit.
Measurement conditions:
***AC adaptor is used for power supply.**
***Set the headphones VR(VR701) to center position(No.5).**
***( ).....CD playback mode (Test disc 1kHz, L+R, 0dB)**
Set the hold unlock and ANTI-SHOCK switches to OFF.
***No mark.....CD stop mode**

Caution!!

- IC and LSI are sensitive to static electricity.
- Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminum foil.

- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the pins of IC or LSI with fingers directly.

11. Schematic Diagram

12. Printed Circuit Board and Wiring Connection Diagram

13. Block Diagram

14. Terminal Function of IC's

14.1. IC101(AN8839NSBE1): Servo Amplifier

Pin No.	Mark	I/O / Division	Function
1	PDE	I	Tracking signal input (1) terminal
2	PDF	I	Tracking signal input (2) terminal
3	VDD	I	Power supply input terminal
4	PDA	I	Focus signal input (1) terminal
5	PDB	I	Focus signal input (2) terminal
6	LPD	I	APC amplifier input terminal
7	LD	O	APC amplifier output terminal
8	RF	O	RF addition output terminal
9	RF IN	I	RF detection signal input terminal
10	CSBRT	I	Capacitor connection terminal for OFTR
11	CEA	I	HPF amplifier capacitor connection input terminal
12	BDO	O	Dropout signal output terminal (H: dropout)
13	LDON	I	APC control input terminal
14	GND	—	Connected to GND
15	/RFDET	O	RF detection signal output terminal / (L: detection)

Pin No.	Mark	I/O / Division	Function
16	PDOWN	O	Reduced voltage detection signal output terminal
17	OFTR	O	Off-track signal output terminal (H: off-track)
18	NC	—	Not used, open
19	ENV	O	RF envelop signal output terminal
20	ENV OFF	I	Envelop control input terminal
21	NC	—	Not used, open
22	TE IN	I	Tracking error amplifier input terminal
23	TE OUT	O	Tracking error amplifier output terminal
24	FE OUT	O	Focus error amplifier output terminal
25	FE IN	I	Focus error amplifier input terminal
26	VREF	O	Reference voltage output terminal
27	TBAL	I	Tracking balance signal input terminal
28	FBAL	I	Focus balance signal input terminal

14.2. IC301(M38224M050HP): System Control and LCD Driver

Pin No.	Mark	I/O / Division	Function
1	3KEY	I	A/D key input terminal (Not used, open)
2	DOCTOR	I	Doctor mode input terminal (Connected to power supply though resistor)
3	NC	—	Not used, open
4	STOP	I	STOP key input terminal
5	SKIP.F	I	SKIP.F key input terminal
6	SKIP.R	I	SKIP.R key input terminal
7	REPEAT	I	REPEAT key input terminal
8	MEMORY	I	MEMORY key input terminal
9	MUTE	O	Hard mute output terminal
10	BUZ	O	Buzzer control output terminal
11	FG	I	Spindle motor cycle signal input terminal
12	BOUT	I	Input terminal of battery charging voltage measurement (L: end)
13	LCDREM	O	Remote controller LCD control output terminal
14	TXPOWER	O	Optical output ON signal output terminal
15	RDATA	O	Output terminal to LCD remote control
16	RCLK	O	LCD remote control clock output terminal
17	MLD	O	Output terminal of serial command latch to peripheral IC's
18	MCLK	O	LCD remote control clock output terminal
19	MDATA	O	Command data output terminal
20	STAT	I	Data input terminal
21	BLKCK	I	Block clock input terminal
22	RSENSE	I	LCD remote control input terminal
23	PDOWN	I	Headphones power OFF input terminal

Pin No.	Mark	I/O / Division	Function
24	ZANSEL	I	For selection of battery remaining power indication input terminal
25	/RESET	I	Reset detection input terminal
26	BATT STROBE	O	Output terminal for measurement of battery charging voltage (Measured by Hi-Z)
27	OPEN	I	Cover open detection input terminal
28	XOSCIN	I	Clock signal input terminal when MSEL is H: Crystal oscillator 1/2 frequency divided clock signal input terminal (I SMCK= 8.4672 MHz) when MSEL is L: Crystal oscillator 1/4 frequency dividedclock signal input terminal (I SMCK = 4.2336 MHz)
29	XOSCOUT	O	Crystal oscillator 1/2 frequency divided clock signal output terminal
30	VSS	—	Connected to GND
31	REST	I	Reset detection input terminal
32	SHOCK.P	I	SHOCK.P key input terminal
33	HOLD	I	HOLD switch input terminal
34	RESUME	I	RESUM switch input terminal
35	RANDOM	I	RANDOM switch input terminal
36	EQ	I	EQ key input terminal
37	BATTERY	I	BATT CHECK key input terminal
38	PLAY	I	PLAY key input terminal
39~40	NC	—	Not used, open
41	PC	O	Hand mute output terminal
42	GUP	O	Gain control output terminal for during XBS operation (When ON: increased 6 dB)
43	6T	—	Not used, open

Pin No.	Mark	I/O / Division	Function
44	11T	O	Spindle moter gain control signal output terminal
45	JUG GL	—	Not used, open
46	NC	—	Not used, open
47	REMSEL	I	LCD remote control (3 key wireless) switching input terminal (Connected to power supply)
48	RAMSEL	—	For selection of 4M/16M DRAM input terminal (Not used, open)
49~50	NC	—	Not used, open
51	PMSEL	—	When 16MRAM: For selection of power management input terminal (Not used, open)
52	SM	—	When SP OFF: ANTI SHOCK detection OFF switching input terminal (Not used, open)
53	NC	—	Not used, open
54~61	SEG16~ / SEG9	O	LCD segment signal output terminal
62	SEG8	—	Not used, open
63~70	SEG7~ / SEG0	O	LCD segment signal output terminal
71	AVCC	—	Power supply input terminal
72	VREF	—	Power supply input terminal
73	AVSS	—	Connected to GND
74~77	COM3~ / COM0	O	LCD segment signal output terminal
78	VL3	—	Power supply input terminal
79~80	VL2~VL1	I	Power supply input terminal

14.3. IC401(BH6522FVE2): Coil and Motor Drive

Pin No.	Mark	I/O / Division	Function
1	CT	—	Triangular wave output terminal (Connected to GND through capacitor)
2	VCC	I	Power supply input terminal
3	NC	—	Not used, open
4	VREF	I	Reference voltage input terminal
5	CLK	I	External clock input terminal
6	PVCC1	I	Power supply input terminal
7	VO1R	O	Focus coil drive signal output terminal
8	PGND1	—	Connected to GND
9	VO1F	O	Focus coil drive signal output terminal
10	PVCC12	I	Power supply input terminal
11	VO2F	O	Tracking coil drive signal output terminal
12	PGND2	—	Connected to GND
13	VO2R	O	Tracking coil drive signal output terminal
14	PVCC2	I	Power supply input terminal
15	MONITOR	I	A/D reference voltage monitor input terminal
16	NC	—	Not used, open
17	IN1F	I	Focus coil drive signal input terminal
18	IN1R	I	Focus coil drive signal input terminal
19	IN2R	I	Tracking coil drive signal input terminal
20	IN2F	I	Tracking coil drive signal input terminal
21	GND	—	Connected to GND
22	MUTE(PC)	I	Hard mute input terminal
23	VG	I	Power supply input terminal
24	IN3F	I	Traverse motor drive signal input terminal
25	IN3R	I	Traverse motor drive signal input terminal
26	NC	—	Not used, open
27	PGND3	—	Connected to GND

Pin No.	Mark	I/O / Division	Function
28	VO3R	O	Traverse motor drive signal output terminal
29	PVCC3	I	Power supply input terminal
30	VO3F	O	Traverse motot drive signal output terminal
31	PGND34	—	Connected to GND
32	NC	—	Not used, open
33	VM	O	Power supply output terminal for spindle motor drive
34	PVCC4	I	Power supply input terminal
35	VLIM	I	Spindle motor gain control signal input terminal
36	CN4	I	Channel 4 filter terminal (Connected to VREF through capacitor)
37	IN4	I	Reference voltage input terminal
38	OP	O	Spindle motor control signal amplifier output terminal
39	INV	I	Spindle motor control signal reverse input terminal
40	NINV	I	Spindle motor drive input terminal

14.4. IC402(BA6966FVE2): Motor drive

Pin No.	Mark	I/O / Division	Function
1	UOUT	O	Spindle motor drive signal output terminal
2	RF	—	Output current detection terminal (Connected to GND through resistor)
3	UIN	I	Motor position detection input terminal
4	VIN		
5	WIN		
6	COM	I	Motor coil midpoint input terminal
7	CST	—	Starting oscillation capacitor / connection terminal (Connected to GND through capacitor)
8	CSL1	—	Slope capacitor connections terminal (Connected to GND through capacitor)
9	CSL2		
10	GND	—	Connected to GND
11	FG	O	Spindle motor cycle signal output terminal
12	BRK-	I	Brake signal input terminal
13	BRK+		
14	STBY	I	Standby input terminal
15	RIB	—	Output TR setting resistor connection terminal (Connected to GND through resistor)
16	VCC	I	Power supply input terminal
17	VM	I	Power supply input terminal for spindle motor drive
18	NC	—	Not used, open
19	WOUT	O	Spindle motor drive signal output terminal
20	VOUT		

14.5. IC11(RS10003E2): DC/DC Converter

Pin No.	Mark	I/O / Division	Function
1	PGND1	—	Connected to GND
2	DSW	O	DC/DC converter coil drive terminal
3	PVCC1	I	Power supply input terminal
4	VSEN	I	Empty detection input terminal (Connected to power supply)
5	RESTART	I	DC/DC converter drive input terminal (Connected to power supply through capacitor)
6	ICNT	I	Setting of charging current input terminal (Connected to GND through resistor)
7	AMUTE	O	Muting signal output terminal
8	START	I	Starting of DC/DC converter input terminal
9	VG	I	Power supply input terminal
10	LG	I	Coil drive input terminal for VG voltage increase / (connected to power supply)
11	PGND2	—	Connected to GND
12	IOUT	O	Charging signal and charging feedback output terminal
13	PVCC2	I	Power supply input terminal
14	PEGB	O	Regulator drive signal output terminal
15	MSTAT/ / ACDET	O	DC jack detection output terminal
16	MDATA/ / EMP	I	Power drop detection input terminal
17	MLD/ / VCNT	I	Regulator voltage switching input terminal
18	MCLK/ / CHARGE	I	Charging ON/OFF input terminal
19	S/P	I	Serial/parallel switching input terminal (Connected to power supply)
20	DVDD	I	Power supply input terminal

Pin No.	Mark	I/O / Division	Function
21	CLK	I	DC/DC converter external clock input terminal
22	PREGND	—	Connected to GND
23	AREF	O	Audio reference output terminal
24	AVCC	O	Ripple filter output terminal (Connected to power supply)
25	CRP	I	Ripple filter smoothing capacitor connection terminal (Connected to GND through capacitor)
26	RESET	O	Reset detection output terminal
27	SOFT	O	Soft start setting output terminal (Connected to GND through capacitor)
28	EO	O	DC/DC converter error amplifier output terminal
29	EI	I	DC/DC converter error amplifier input terminal
30	VADJ	—	Output for varying DC/DC converter output terminal
31	CT	O	Triangular wave output terminal (Connected to GND through capacitor)
32	SPRT	O	Output terminal setting of constants anti-power OFF (Connected to GND through capacitor)
33	OFF	—	DC/DC converter OFF (Not used, open)
34	BOUT	O	Amplifier output terminal
35	STROBE	I	Strobe input terminal
36	SEI	—	Sub DC/DC converter error amplifier input terminal (Not used, open)
37	VSUB	I	Power supply input terminal
38	SSW		
39	SVCC		
40	USW	I	DC/D converter coil drive input terminal

14.6. IC501(MN662784SA): Servoprocessor, Digital Signal

Processing, Digital Filter, and D/A Converter

Pin No.	Mark	I/O / Division	Function
1	DVDD3V	I	Power supply input terminal for DRAM
2	D0	I/O	Data input/output terminal for DRAM
3	D1		
4	NWE	O	Write enable output terminal for DRAM
5	NRAS	O	RAS control signal output terminal for DRAM
6	D2	I/O	Data 2/3 input/output terminal for DRAM
7	D3		
8	NCAS0	O	CAS control 0 signal output terminal for DRAM
9	NCAS1	O	CAS control 1 signal output terminal for DRAM (unused and open)
10~14	A8~4	O	Addresses 8-4 output terminal for DRAM
15	A9	O	Address 9 output terminal for DRAM
16~19	A0~A3	O	Addresses 0-3 output terminal for DRAM
20	VSS2	—	Connected to GND
21	DVDD2	I	Power supply input terminal for digital circuits
22	SPOUT	O	Spindle motor drive output terminal
23	TRV+	O	Traverse motot drive (+) output terminal
24	TRV-	O	Traverse motot drive (-) output terminal
25	TR+	O	Tracking coil drive (+) output terminal
26	TR-	O	Tracking coil drive (-) output terminal
27	FO+	O	Focus coil drive (+) output terminal
28	FO-	O	Focus coil drive (-) output terminal
29	FBAL	O	Focus balance adjustment output terminal
30	TBAL	O	Tracking balance adjustment output terminal

Pin No.	Mark	I/O / Division	Function
31	CSEL	I	Frequency control input terminal of crystal osicillator (Not used, connected to GND)
32	FE	I	Focus error signal input terminal (Analog input)
33	TE	I	Tracking error signal input terminal (Analog input)
34	RFENV	I	RF envelope signal input terminal (Analog input)
35	OFT	I	Off-track signal input terminal (H: off-track)
36	NRFDET	I	RF detection signal input terminal (L: detection)
37	BDO	I	Dropout signal input terminal (H: dropout)
38	LDON	O	Laser ON signal output terminal (H: ON)
39	ARF	I	RF signal input terminal
40	IREF	I	Reference current input terminal
41	AD PVCC	O	A/D reference voltage output terminal
42	DSLF	O	Loop filter output terminal for DSL
43	DRF	O	Bias output terminal for DSL
44	PLLF	O	Loop filter output terminal for PLL
45	VCOF	O	Loop filter output terminal for jitter-free VCO
46	AVDD2	I	Power supply input terminal for analog circuits
47	AVSS2	—	Connected to GND
48	OUTL	O	Left channel audio signal output terminal
49	AVSS1	—	Connected to GND
50	OUTR	O	Right channel audio signal output terminal
51	AVDD1	—	Power supply input terminal for analog circuits
52	FSEL	—	Noise filter ON/OFF switching input terminal (L: ON) (Connected to GND)

Pin No.	Mark	I/O / Division	Function
53	TMOD1	—	Terminal mode switching input 1 terminal (L: normal) (Connected to GND)
54	TMOD2	—	Terminal mode switching input 2 terminal (L: normal) (Connected to GND)
55	FLAG	—	Flag signal output terminal (Not used, open)
56	FCLK	—	LCD frame click signal output terminal (Not used, open)
57~59	EXT0 / ~EXT2	—	Not used, open
60	TX	O	Digital audio interface signal output terminal
61	MCLK	I	Microprocessor command clock signal input terminal (Detected at leading edge)
62	MDATA	I	Microprocessor command data signal input terminal
63	MLD	I	Microprocessor command control signal input terminal (L: load)
64	BLKCK	O	Sub-code block clock signal output terminal
65	SQCK	I	External clock input terminal for sub-code Q resistor
66	SUBQ	—	Sub-code Q data output terminal (Not used, open)
67	DMUTE	—	Mute input terminal (H: mute)(Not used, connected to GND)
68	STAT	O	Status signal output terminal
69	NRST	I	Reset signal input terminal (H: reset)
70	SPPOL	O	Spindle motor drive signal output terminal
71	PMCK	O	Clock signal output terminal
72	SMCK	O	System clock signal output terminal
73	SUBC	—	Sub-code output terminal (Not used, open)

Pin No.	Mark	I/O / Division	Function
74	SBCK	I	Clock input terminal for sub-code output terminal (Connected to power supply)
75	NCLDCK	—	Sub-code frame clock signal output terminal (Not used, open)
76	NTEST	I	Test terminal (Normal: H) (Connected to power supply)
77	X1	I	Crystal oscillator circuit input terminal (F=16.9MHz)
78	X2	O	Crystal oscillator circuit output terminal (F=16.9MHz)
79	DVDD1	I	Power supply input terminal for digital circuits
80	DVSS1	—	Connected to GND

15. Replacement Parts List

Notes:

***Inportant safety notice:**

Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

***When replacing any of components, be sure to use only manufactures specified parts shown in the parts list.**

***The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)**

Parts without these indications can be used for all areas.

***Warning: This product uses a laser diode. Refer to caution statements.**

***Capacity values are in microfarads (μ F) unless specified otherwise, P=Pico-farads (pF), F= Farads (F).**

Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000k (OHM).

***"<IA>" mark in Remarks indicates languages of instruction manual.**

[<IA>: English/ Chinese]

***The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availabilityis dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.**

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
2	RGV0200-H	SWITCH KNOB	2	
3	RJC93030	BATT.TERMINAL	1	
5	RMA0677	REAR ORNAMENT PLATE	1	
6	RMB0642	OPEN SPRING	1	
7	RGU1816-S	OPERATION BUTTON	1	
8	RKM0383-6H	INTERMEDIATE CABINET	1	
9	RSQ0068	RUBBER	1	
10	RXA0181	OPERATION PCB	1	
12	RYF0535-A	CD COVER(A)	1	(A)
12	RYF0535-S	CD COVER(S)	1	(S)
12-1	XQN14+BG3FC	SCREW	2	
13	XQN14+BG3FC	SCREW	6	
14	RGV0239-H1	OPEN BUTTON	1	
15	RAE0220Z	TRAVERSE DECK ASS'Y	1	⚠
15-1	RDG0443	GEAR	1	
15-2	RDG0444	GEAR	1	
15-3	RJB2025A	FPC(16P)	1	
15-4	RMG0503-K	FLOATING RUBBER	3	
15-5	RMS0644	DRIVE SHAFT	1	
15-6	RMC0366-1	THRUST SPRING	1	
15-7	RXQ0613	NET PLATE ASS'Y	1	
15-8	VED0431	OPTICAL PICKUP	1	⚠
15-9	RXQ0611	TRAVERSE MOTOR	1	
15-10	XQN14+BG4FZ	SCREW	1	
15-11	XQN17+CG45	SCREW	3	
16	RME0265	SPRING	1	
17	RMR1143-K	STOPPER	1	
18	RMR1186-K	LOCK PLATE	1	
19	RMR1187-K	FPC HOLDER	1	
20	RFKJCT570GHA	BOTTOM CABINET ASS'Y	1	(A)
20	RFKJCT570GHS	BOTTOM CABINET ASS'Y	1	(S)
20-1	RKA0063-K	FOOT	2	
21	XTN17+6GFZ	SCREW	4	
22	RFKMLCT570-A	BATTERY COVER	1	(A)
22	RFKMLCT570-S	BATTERY COVER	1	(S)
23	RGN1794-K	NAME PLATE	1	
A1	RFA1139-H	BATTERY CASE	1	
A2	RFEA403H-S	AC ADAPTOR	1	(GH) ⚠
A2	RFEA403T-1S	AC ADAPTOR	1	(GK) ⚠
A3	RFEV027P-SS	WIRED REMOTE CONTROL	1	
A4	RFEV319P-SA	STEREO EARPHONES	1	
A5	RQT5250-K	INSTRUCTION MANUAL	1	<IA>
A6	RFKFHHR4AHBA	RECHARGEABLE BATT.ASS'Y	1	
A6-1	RFE0059	SPACER	1	
A6-2	RXQ0449	BATTERY CASE	1	
A8	RFC0041-K	SOFT CASE	1	
A9	RQCB0169	SERVICENTER LIST	1	
C10	ECUV1H121KCV	50V 120P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C11	ECUVNA105ZFV	10V 1U	1	
C12	RCST1AY475RG	10V 4.7U	1	
C13	RCE0JSL470IX	6.3V 47U	1	
C14	RCE0GKS221IG	4V 220U	1	
C15	ECUZNC104ZFV	16V 0.1U	1	
C16,17	ECUVNA105ZFV	10V 1U	2	
C19	ECEA0JKS220	6.3V 22U	1	
C20	ECUVNA105ZFV	10V 1U	1	
C21	ECUVNH103KBV	50V 0.01U	1	
C22	ECUZNC104ZFV	16V 0.1U	1	
C23	ECUVNA105ZFV	10V 1U	1	
C24	ECUV1H561KBV	50V 560P	1	
C26	ECUVNJ105KBV	63V 1U	1	
C27,28	ECEA0JKS331	6.3V 330U	2	
C30	ECUVNC104KBV	16V 0.1U	1	
C33	RCST1AY475RG	10V 4.7U	1	
C35	ECUVNJ105KBV	63V 1U	1	
C36,37	ECUVNA105ZFV	10V 1U	2	
C101	ECUVNC104KBV	16V 0.1U	1	
C103	ECUVNE223KBV	25V 0.022U	1	
C111	ECUVNE223KBV	25V 0.022U	1	
C112	ECUV1H221KBV	50V 220P	1	
C113,14	ECUZNC104ZFV	16V 0.1U	2	
C115-17	ECUVNE223KBV	25V 0.022U	3	
C120	ECUV1H152KBV	50V 1500P	1	
C121	ECUV1H121KCV	50V 120P	1	
C201	RCST0JY226RG	6.3 22U	1	
C301,02	ECUVNA105ZFV	10V 1U	2	
C401	ECUV1H102KBV	50V 1000P	1	
C402	ECUVNA105ZFV	10V 1U	1	
C404	RCST0JY226RG	6.3 22U	1	
C405	ECUV1E123KBV	25V 0.012U	1	
C406	ECUVNE153KBV	25V 0.015U	1	
C408	ECUVNE223KBV	25V 0.022U	1	
C410	ECUV1H122KBV	50V 1200P	1	
C419	ECUVNA105ZFV	10V 1U	1	
C431-33	ECUV1H222KBV	50V 2200P	3	
C434	ECUV0J474KBV	6.3V 0.47U	1	
C435,36	ECUVNC333KBV	16V 0.033U	2	
C437	RCE0GKS470IV	4V 47U	1	
C438	ECUV1H152KBV	50V 1500P	1	
C501	ECUV1H390KCV	50V 39P	1	
C502	ECUV1H330GCV	50V 33P	1	
C503	ECUV1H561KBV	50V 560P	1	
C504	ECUZNC104ZFV	16V 0.1U	1	
C505	ECUVNE223KBV	25V 0.022U	1	
C506	ECUVNA224KBV	10V 0.22U	1	
C507	RCE0GKS221IG	4V 220U	1	
C508	ECUV0J474KBV	6.3V 0.47U	1	
C509	ECUVNH103KBV	50V 0.01U	1	
C510,11	ECUZNC104ZFV	16V 0.1U	2	
C514	ECUV1H102KBV	50V 1000P	1	
C515	ECUZNC104ZFV	16V 0.1U	1	
C525	ECUZNC104ZFV	16V 0.1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C551,52	ECUZNC104ZFV	16V 0.1U	2	
C601,02	ECUV1H102KBV	50V 1000P	2	
C603,04	ECUV1H272KBV	50V 2700P	2	
C605,06	RCST0GY106RG	4V 10U	2	
C607,08	ECUV1H681KBV	50V 680P	2	
C609	ECUZNC104ZFV	16V 0.1U	1	
C610	RCE0GKS470IV	4V 47U	1	
C701	ECEA0JPD470I	6.3V 47U	1	
C702	ECUZNC104ZFV	16V 0.1U	1	
C703,04	ECUVNJ105KBV	63V 1U	2	
C705,06	ECEA0GKS221	4V 220U	2	
C707	ECUZNC104ZFV	16V 0.1U	1	
C750,51	ERJ3GEYJ562V	1/16W 5.6K	2	
C901	ECUV1H332KBV	50V 3300P	1	
C951	ECUVNE223KBV	25V 0.022U	1	
CN11	RJH8302	BATTERY TERMINAL	1	
CN51	RJH9209-1	BAT.CASE CONNECT.TERMINAL	1	
CN101	RJS2A4616T	CONNECTOR(16P)	1	
CN301	RJS2A6130T	CONNECTOR(30P)	1	
CN401	RJS2A6108T	CONNECTOR(8P)	1	
D11	MA1070400L	DIODE	1	
D12	MA741WKTX	DIODE	1	
D21	MA111TX	DIODE	1	
D301,02	MA142WKTX	DIODE	2	
D901	MA142WKTX	DIODE	1	
D903	MA143TX	DIODE	1	
D911	MA142WKTX	DIODE	1	
IC11	RS10003E2	IC	1	
IC101	AN8839NSBE1	IC	1	
IC301	M38224M050HP	IC	1	
IC401	BH6522FV	IC	1	
IC402	BA6966FV	IC	1	
IC501	MN662784SA	IC	1	
IC502	M51V7400D1FS	IC	1	
IC701	NJU7082BVTE1	IC	1	
ICP11	UNHH20600L	IC PROTECTOR	1	⚠
JK11	RJJ43K09-C	JACK,DC IN	1	
JK551	GP1F366X	OPT,OUT	1	
JK601	RJJD3S5ZB-C	JACK,AUDIO OUT	1	
JK701	RJJ36T02-C	JACK,HEADPHONE	1	
L11	RLQU331KT-W	COIL	1	
L12	RLQS101KT1-T	COIL	1	
L13	RLQU331KT-W	COIL	1	
L401	RLQS330KT1-T	COIL	1	
LCD301	RSL5248-C	LCD	1	
P1	RPK1333	PACKING CASE(A)	1	(A)(GH)
P1	RPK1332	PACKING CASE(S)	1	(S)(GH)

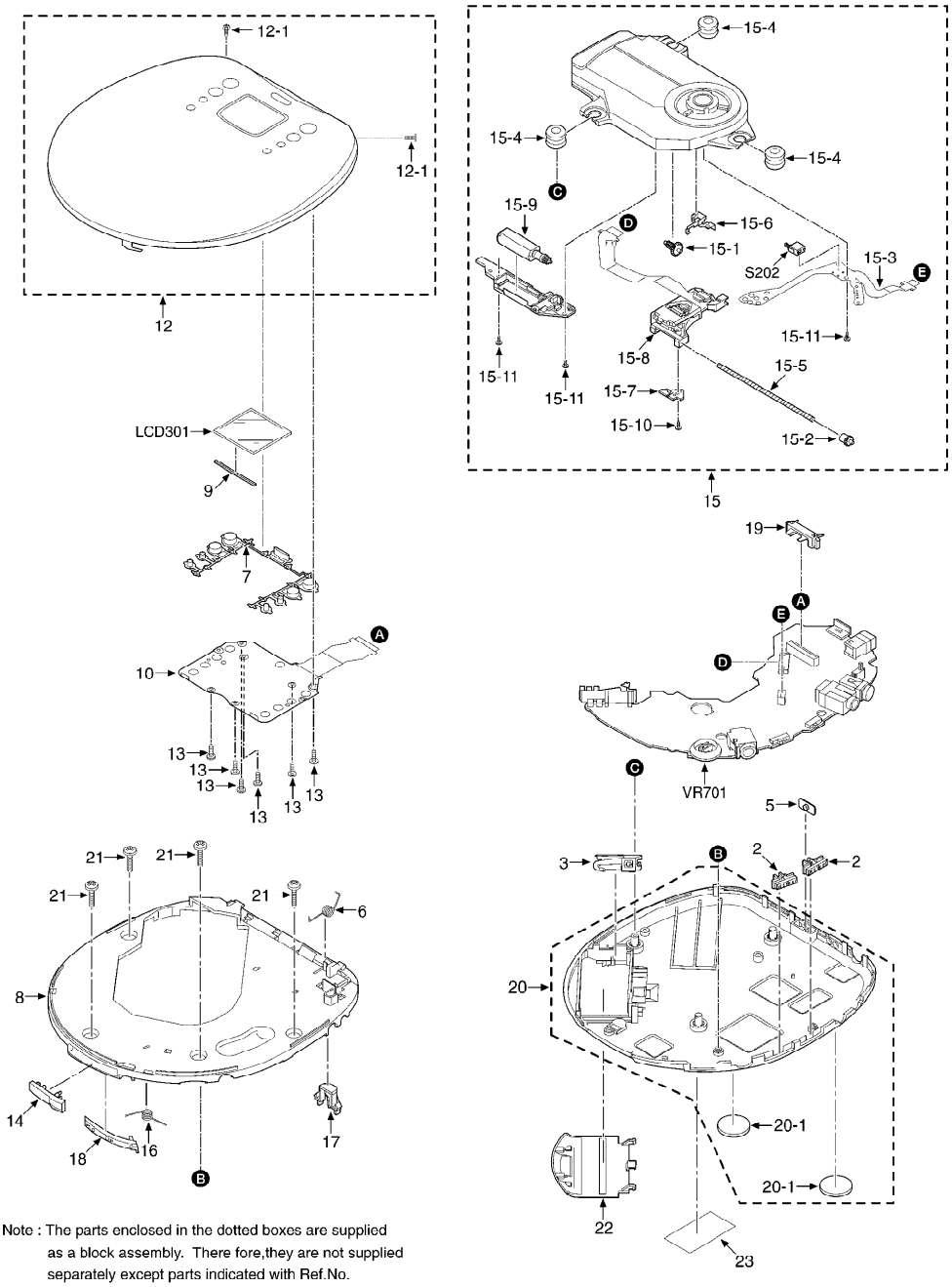
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
P1	RPK1331	PACKING CASE(A)	1	(A)(GK)
P1	RPK1330	PACKING CASE(S)	1	(S)(GK)
P2	RPQ0924	PAD	1	
P3	RPH0218	SHEET	1	
P4	RPF0111	PROTECTION BAG(UNIT)	1	
P5	RPQ0966	PAD	1	(GH)
P5	RPQ0993	PAD	1	(GK)
PCB1	REP2938K-M	MAIN P.C.B.	1	(RTL)
Q11	2SB1132T100	TRANSISTOR	1	
Q201	2SB709ATX	TRANSISTOR	1	
Q401	DTC144TUA106	TRANSISTOR	1	
Q402	2SD1819ATX	TRANSISTOR	1	
Q431	UN5113TX	TRANSISTOR	1	
Q551	DTA143EUT106	TRANSISTOR	1	
Q601,02	2SD1328QRSTX	TRANSISTOR	2	
Q603	XN1215TX	TRANSISTOR	1	
Q701,02	2SD1328QRSTX	TRANSISTOR	2	
Q703	XN1210TX	TRANSISTOR	1	
Q901	DTA114YUA106	TRANSISTOR	1	
Q902	XN1210TX	TRANSISTOR	1	
Q903	UN5113TX	TRANSISTOR	1	
Q904	2SD1819ATX	TRANSISTOR	1	
Q906	UN5113TX	TRANSISTOR	1	
Q907	2SD1819ATX	TRANSISTOR	1	
Q951	2SB1218ATX	TRANSISTOR	1	
Q952	2SD1819ATX	TRANSISTOR	1	
Q953	DTC114EUA106	TRANSISTOR	1	
Q954	XN1215TX	TRANSISTOR	1	
Q955	UN5213TX	TRANSISTOR	1	
R11	ERJ3GEYJ822V	1/16W 8.2K	1	
R12	ERJ3GEYJ332V	1/16W 3.3K	1	
R13	ERJ3GEYJ102V	1/16W 1K	1	
R14	ERJ3GEYJ222V	1/16W 2.2K	1	
R15,16	ERJ3GEYJ393V	1/16W 39K	2	
R22	ERJ3GEYJ223V	1/16W 22K	1	
R25,26	ERJ3GEYJ104Z	1/16W 100K	2	
R27	ERJ3GEYJ392V	1/16W 3.9K	1	
R28	ERJ3GEYJ100V	1/16W 10	1	
R29	ERJ3GEYJ562V	1/16W 5.6K	1	
R31	ERJ3GEYJ683V	1/16W 68K	1	
R32	ERJ3GEYJ103Z	1/16W 10K	1	
R113,14	ERJ3GEYJ330V	1/16W 33	2	
R120	ERJ3GEYJ103Z	1/16W 10K	1	
R121,22	ERJ3GEYJ124V	1/16W 120K	2	
R125,26	ERJ3GEYJ124V	1/16W 120K	2	
R128,29	ERJ3GEYJ103Z	1/16W 10K	2	
R201	ERJ3GEYJ2R2V	1/16W 2.2	1	
R202	ERJ3GEYJ223V	1/16W 22K	1	
R203	ERJ3GEYJ1R0V	1/16W 1	1	
R301	ERJ3GEYJ392V	1/16W 3.9K	1	
R302	ERJ3GEYJ104Z	1/16W 100K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R303	ERJ3GEYJ102V	1/16W 1K	1	
R304	ERJ3GEYJ105V	1/16W 1M	1	
R306	EXBV8V473JV	1/16W 47K	1	
R307	ERJ3GEYJ104Z	1/16W 100K	1	
R322-24	ERJ3GEYJ104Z	1/16W 100K	3	
R325	ERJ3GEYJ333V	1/16W 33K	1	
R326	ERJ3GEYJ102V	1/16W 1K	1	
R403	ERJ3GEYJ123V	1/16W 12K	1	
R404	ERJ3GEYJ273V	1/16W 27K	1	
R405	ERJ3GEYJ333V	1/16W 33K	1	
R406	ERJ3GEYJ104Z	1/16W 100K	1	
R410	ERJ3GEYJ822V	1/16W 8.2K	1	
R411	ERJ3GEYJ393V	1/16W 39K	1	
R431,32	ERJ3GEYJ1R0V	1/16W 1	2	
R433	ERJ3GEYJ333V	1/16W 33K	1	
R435	ERJ3GEYJ473V	1/16W 47K	1	
R436	ERJ3GEYJ153V	1/16W 15K	1	
R437	ERJ3GEYJ391V	1/16W 390	1	
R439	ERJ3GEYJ222V	1/16W 2.2K	1	
R440	ERJ3GEYJ473V	1/16W 47K	1	
R441	ERJ3GEYJ184V	1/16W 180K	1	
R501	ERJ3GEYJ683V	1/16W 68K	1	
R502	ERJ3GEYJ563V	1/16W 56K	1	
R505	ERJ3GEYJ391V	1/16W 390	1	
R506	ERJ3GEYJ222V	1/16W 2.2K	1	
R508	ERJ3GEYJ1R0V	1/16W 1	1	
R511	ERJ3GEYJ102V	1/16W 1K	1	
R512	EXBV4V102JV	1/32W 1K	1	
R513	ERJ3GEYJ104Z	1/16W 100K	1	
R514	ERJ3GEYJ681V	1/16W 680	1	
R515	ERJ3GEYJ150V	1/16W 15	1	
R551	ERJ3GEYJ102V	1/16W 1K	1	
R601,02	ERJ3GEYJ681V	1/16W 680	2	
R603,04	MCR03PZHJ561	1/16W 560	2	
R605,06	ERJ3GEYJ473V	1/16W 47K	2	
R607,08	ERJ3GEYJ102V	1/16W 1K	2	
R609	EXBV4V332JV	1/32W 3.3K	1	
R701,02	ERJ3GEYJ104Z	1/16W 100K	2	
R703,04	ERJ3GEYJ180V	1/16W 18	2	
R705,06	ERJ3GEYJ1R5V	1/16W 1.5	2	
R707,08	ERJ3GEYJ472V	1/16W 4.7K	2	
R709	EXBV4V392J	1/32W 3.9K	1	
R710	EXBV4V123J	1/32W 12K	1	
R711	EXBV4V103JV	1/32W 10K	1	
R712	EXBV4V331JV	1/32W 330	1	
R750,51	ERJ3GEYJ562V	1/16W 5.6K	2	
R901	EXBV4V821JV	1/32W 820	1	
R902	ERJ3GEYJ274V	1/16W 270K	1	
R904	ERJ3GEYJ470V	1/16W 47	1	
R905	ERJ3GEYJ473V	1/16W 47K	1	
R910	ERJ3GEYJ101V	1/16W 100	1	
R951	ERJ3GEYJ821V	1/16W 820	1	
R952	ERJ3GEYJ103Z	1/16W 10K	1	
R953,54	ERJ3GEYJ472V	1/16W 4.7K	2	

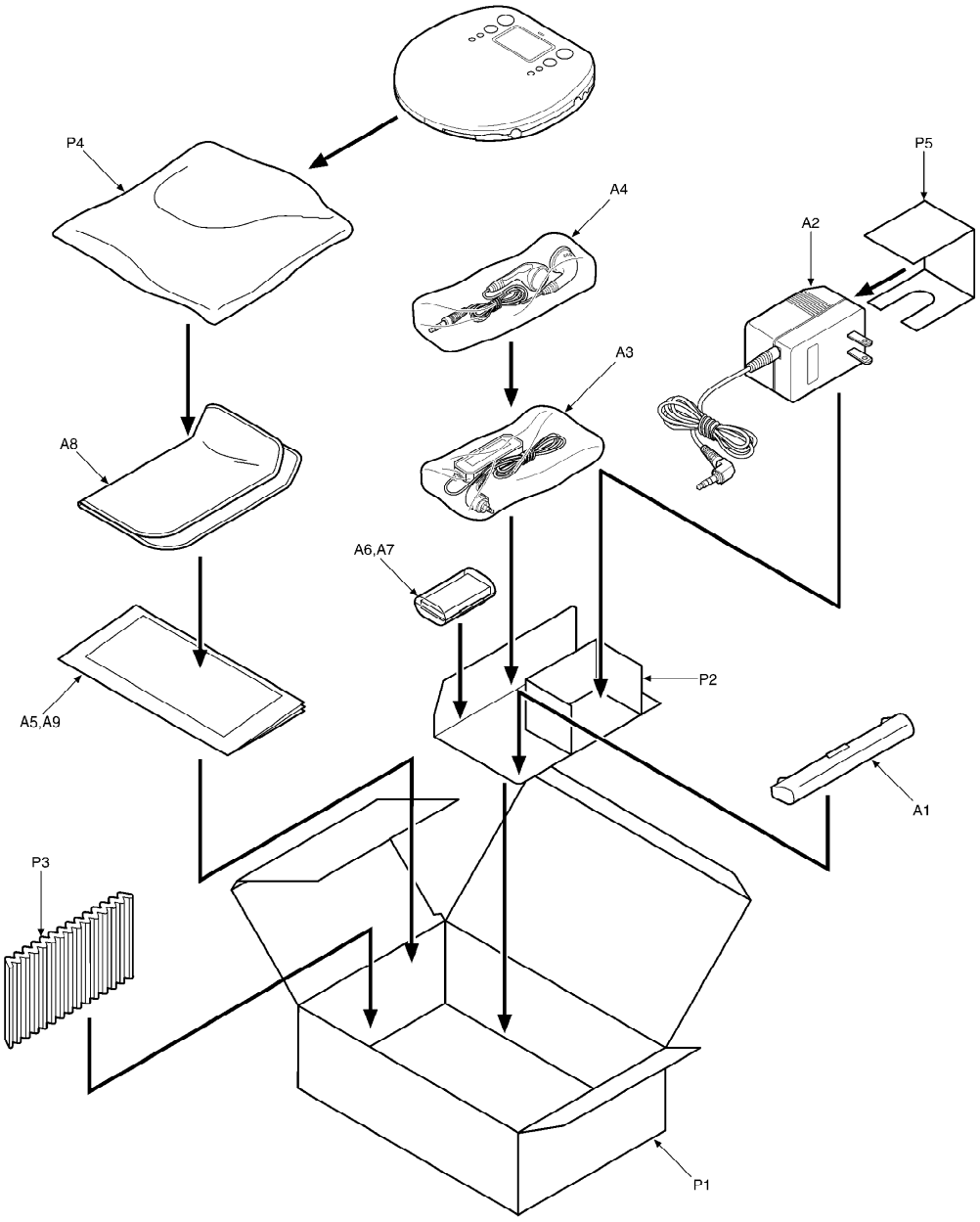
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R955	ERJ3GEYJ123V	1/16W 12K	1	
R956	ERJ3GEYJ330V	1/16W 33	1	
RJ3	ERJ3GEY0R00V	1/16W 0	1	
RJ302	ERJ3GEY0R00V	1/16W 0	1	
RJ306	ERJ3GEY0R00V	1/16W 0	1	
RJ502	ERJ3GEY0R00V	1/16W 0	1	
RJ504	ERJ3GEY0R00V	1/16W 0	1	
RJ506	ERJ3GEY0R00V	1/16W 0	1	
RJ508	ERJ3GEY0R00V	1/16W 0	1	
RJ510	ERJ3GEY0R00V	1/16W 0	1	
RJ902	ERJ3GEY0R00V	1/16W 0	1	
RJ904	ERJ3GEY0R00V	1/16W 0	1	
S201	ESE11SV6	SW,OPEN	1	
S202	RSP1A024-A	SW,REST DET.	1	
S309	RSS3A007-1A	SW,MODE	1	
S310	RSS2A010-1A	SW,HOLD	1	
VR11	RRN3A05B33WL	V.R.,POWER SUPPLY ADJ.	1	
VR701	EVUTUFB11C54	V.R.,VOLUME	1	
X501	RSXC16M9S01T	OSCILLATOR	1	

16. Cabinet Parts Location



Note : The parts enclosed in the dotted boxes are supplied as a block assembly. There fore,they are not supplied separately except parts indicated with Ref.No.

17. Packaging



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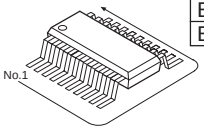
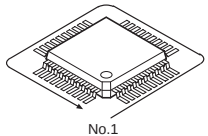
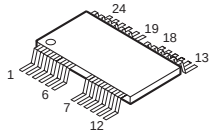
NJU7082BVTE1	8PIN
AN8839NSBE1	28PIN
RS10003E2	40PIN
BH6522FVE2	40PIN
BA6966FVE2	20PIN



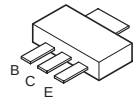
M38224M050HP	80PIN
MN662784SA	80PIN

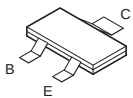


M51V7400D1FS



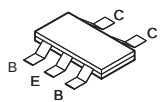
2SB1132T100



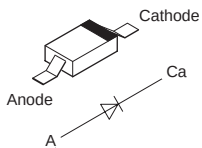


2SB709ATX
2SB1218ATX
2SD1328TX
2SD1819ATX
DTA114YUA106
DTA143EUA106
DTA144EUA106
DTC114EUA106
DTC144TUA106
UN5213TX

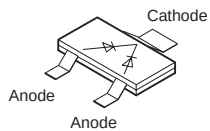
XN1210TX
XN1215TX



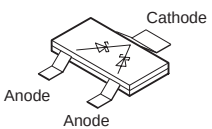
MA111TX



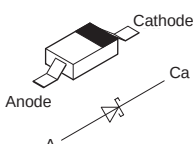
MA142WKTX



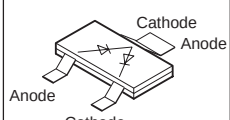
MA741WKTX

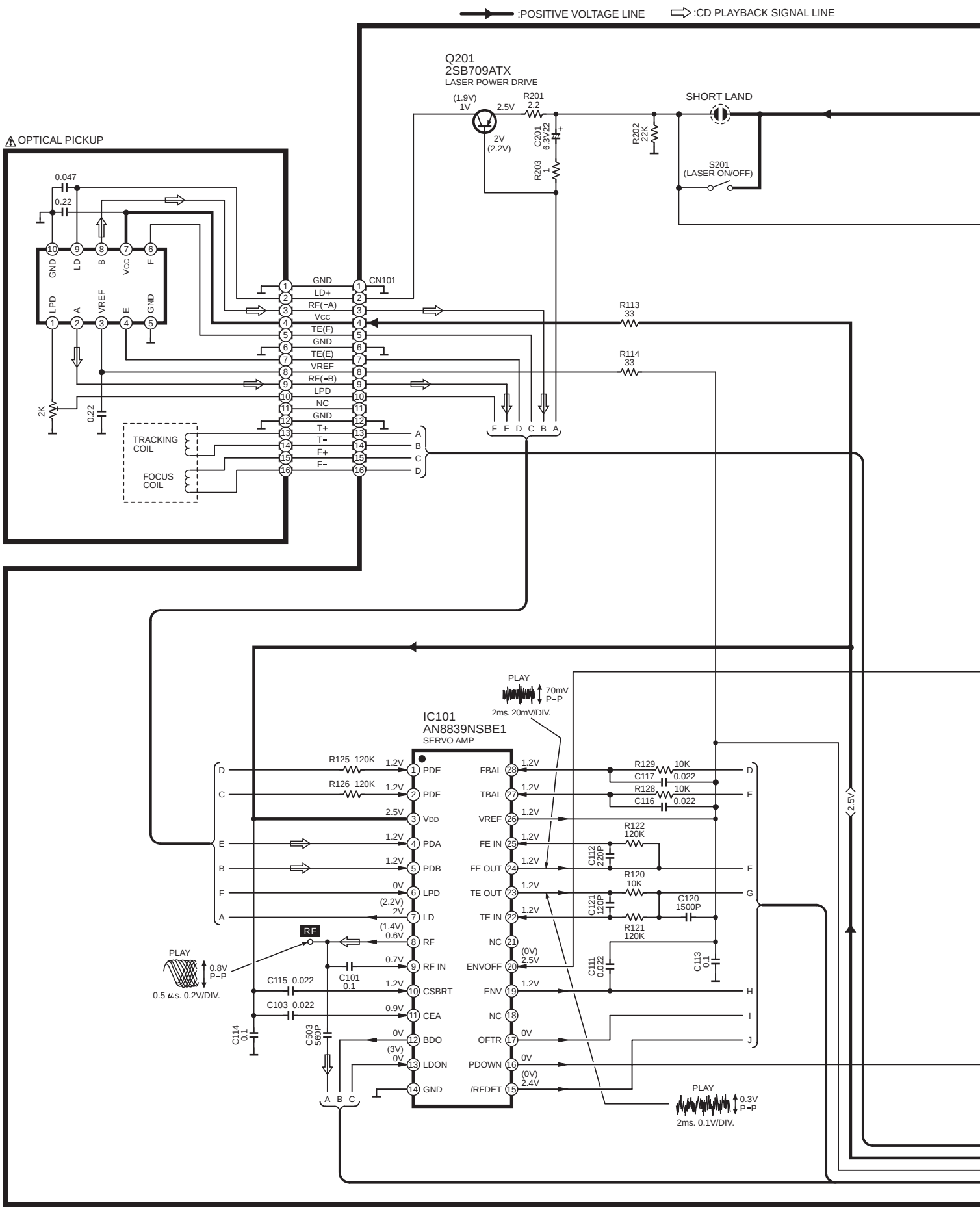


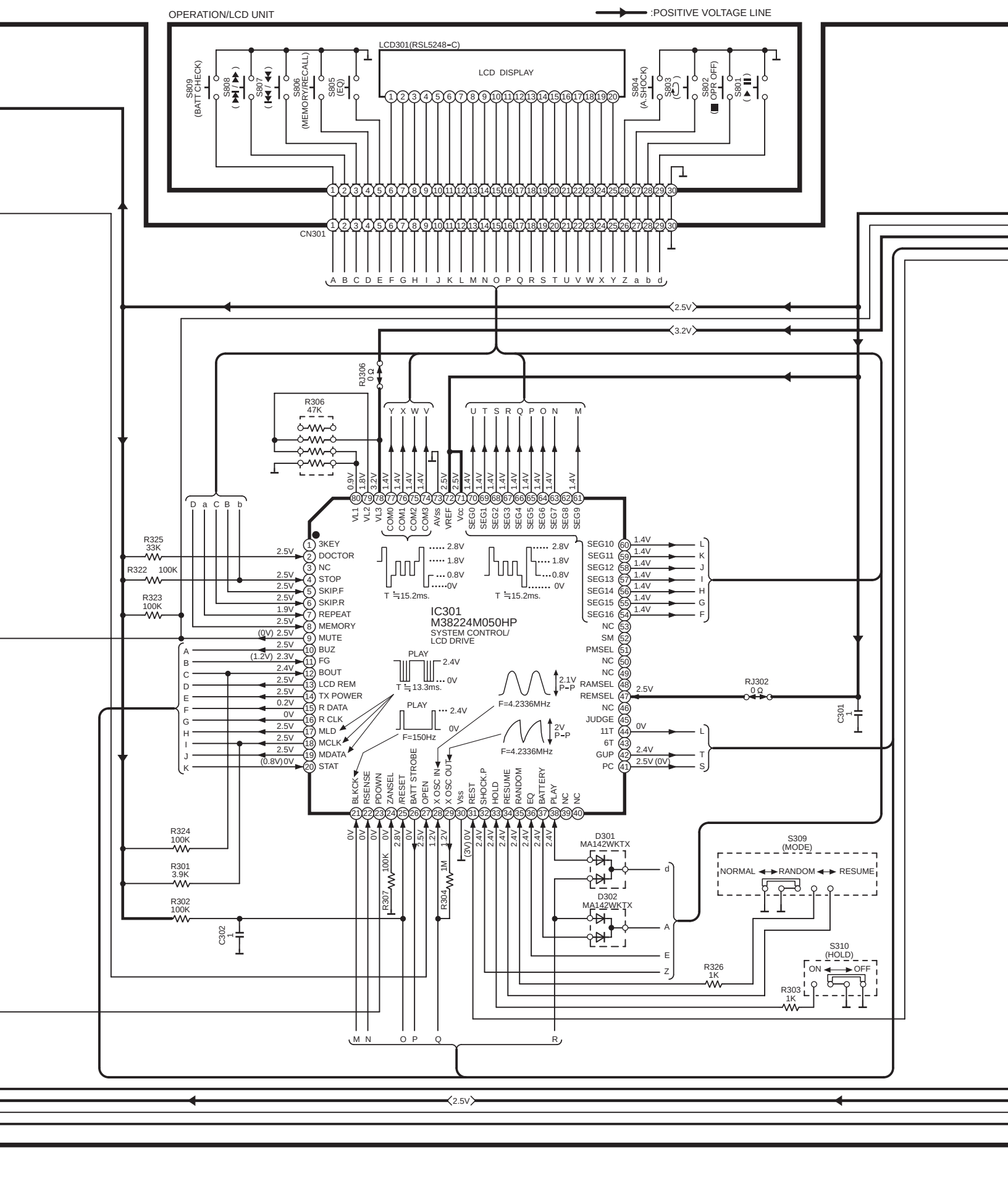
MA1070400L

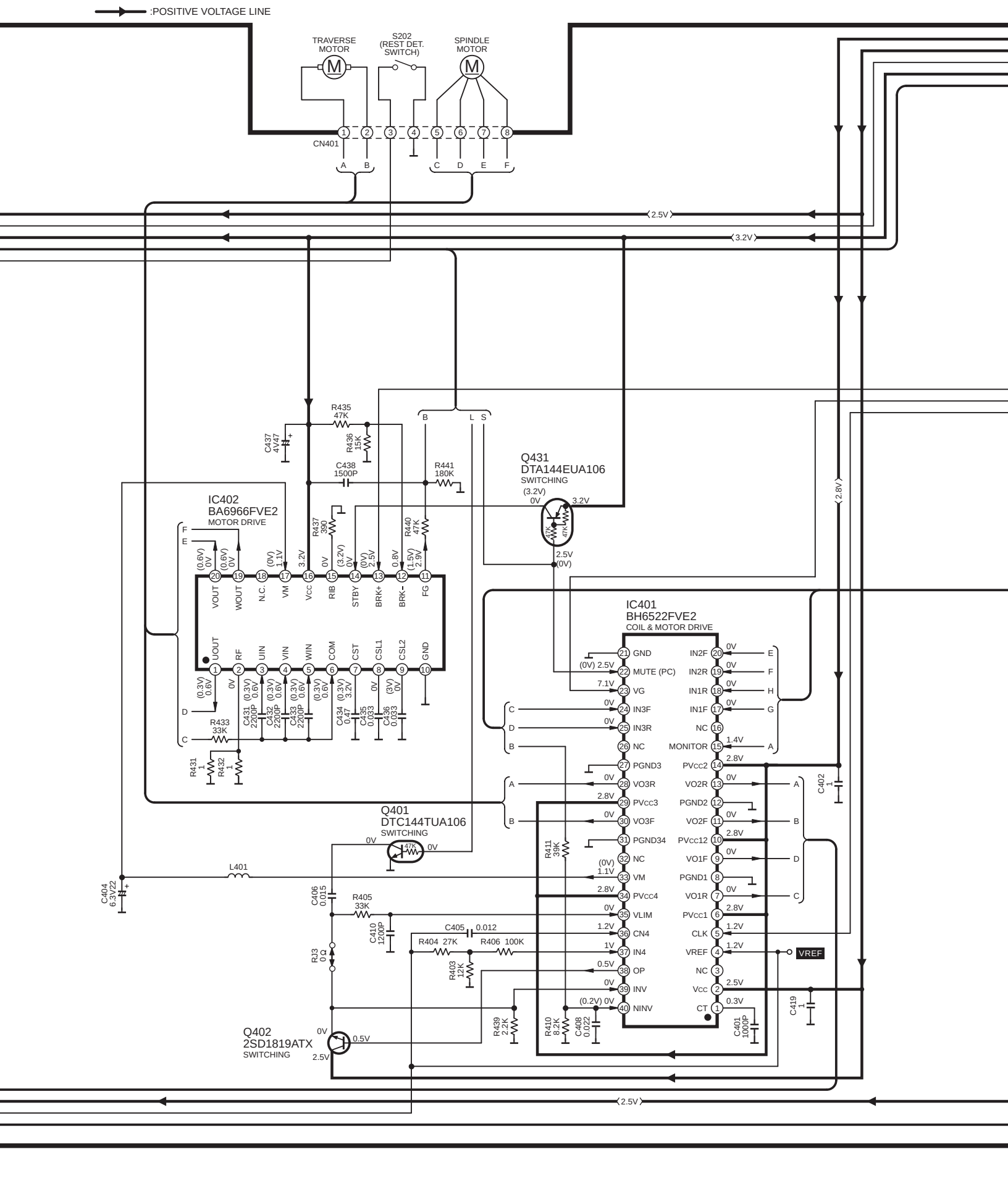


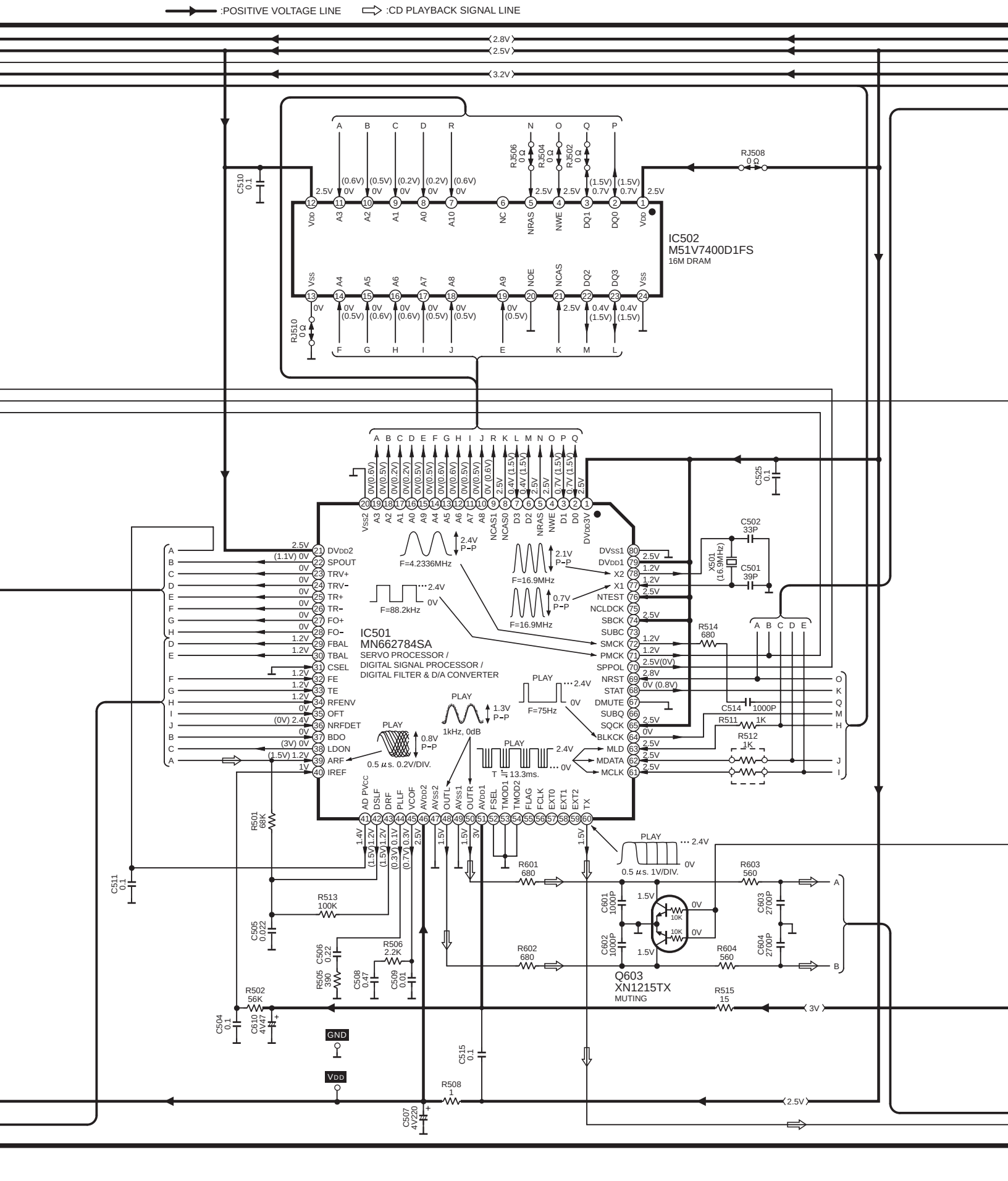
MA143TX



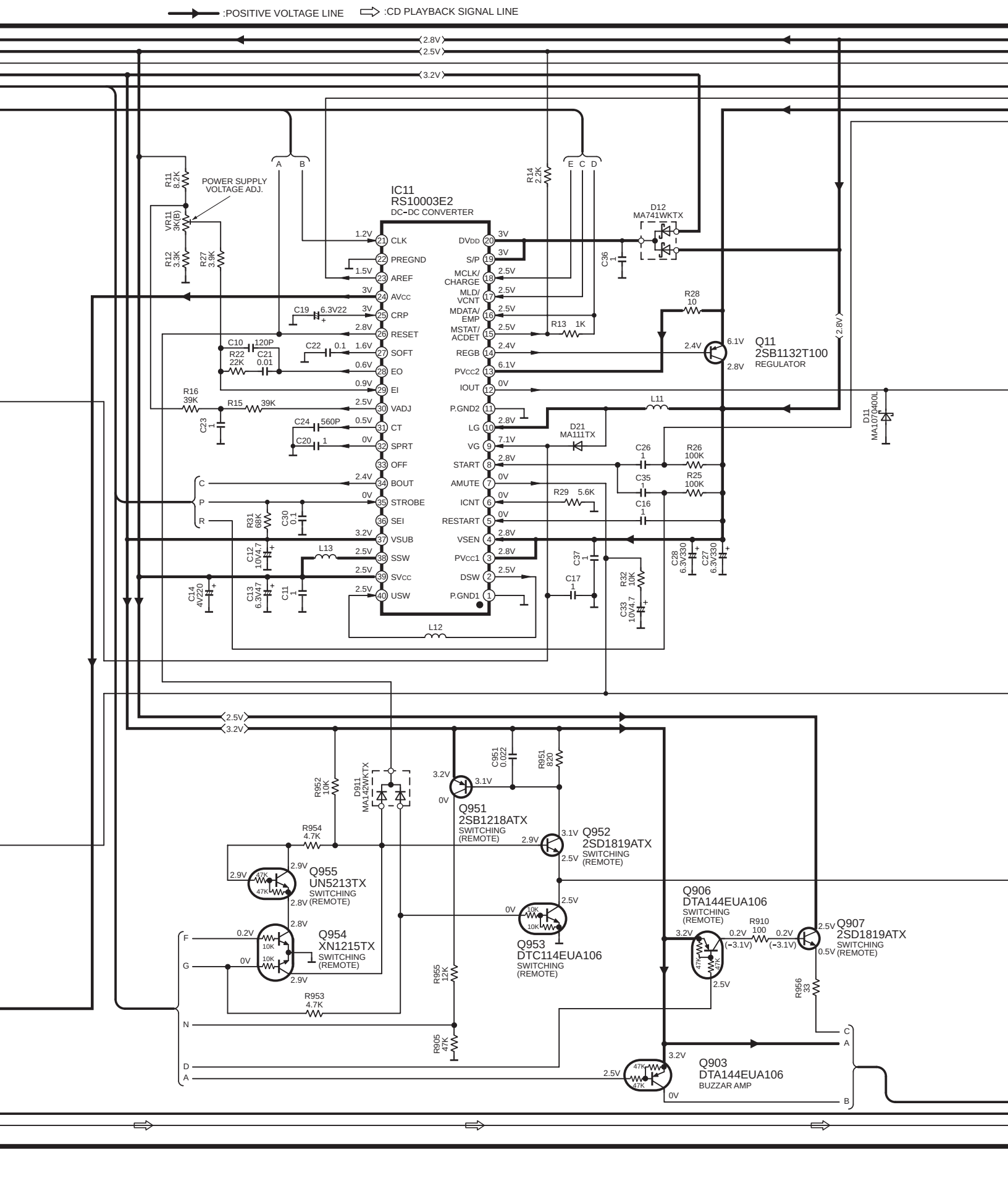

:POSITIVE VOLTAGE LINE
:CD PLAYBACK SIGNAL LINE
Q201
2SB709ATX
LASER POWER DRIVE
SHORT LAND
S201
(LASER ON/OFF)
OPTICAL PICKUP
CN101
TRACKING COIL
FOCUS COIL
IC101
AN8839NSBE1
SERVO AMP
PLAY
2ms. 20mV/DIV.
0.5 μs. 0.2V/DIV.
2ms. 0.1V/DIV.
RF

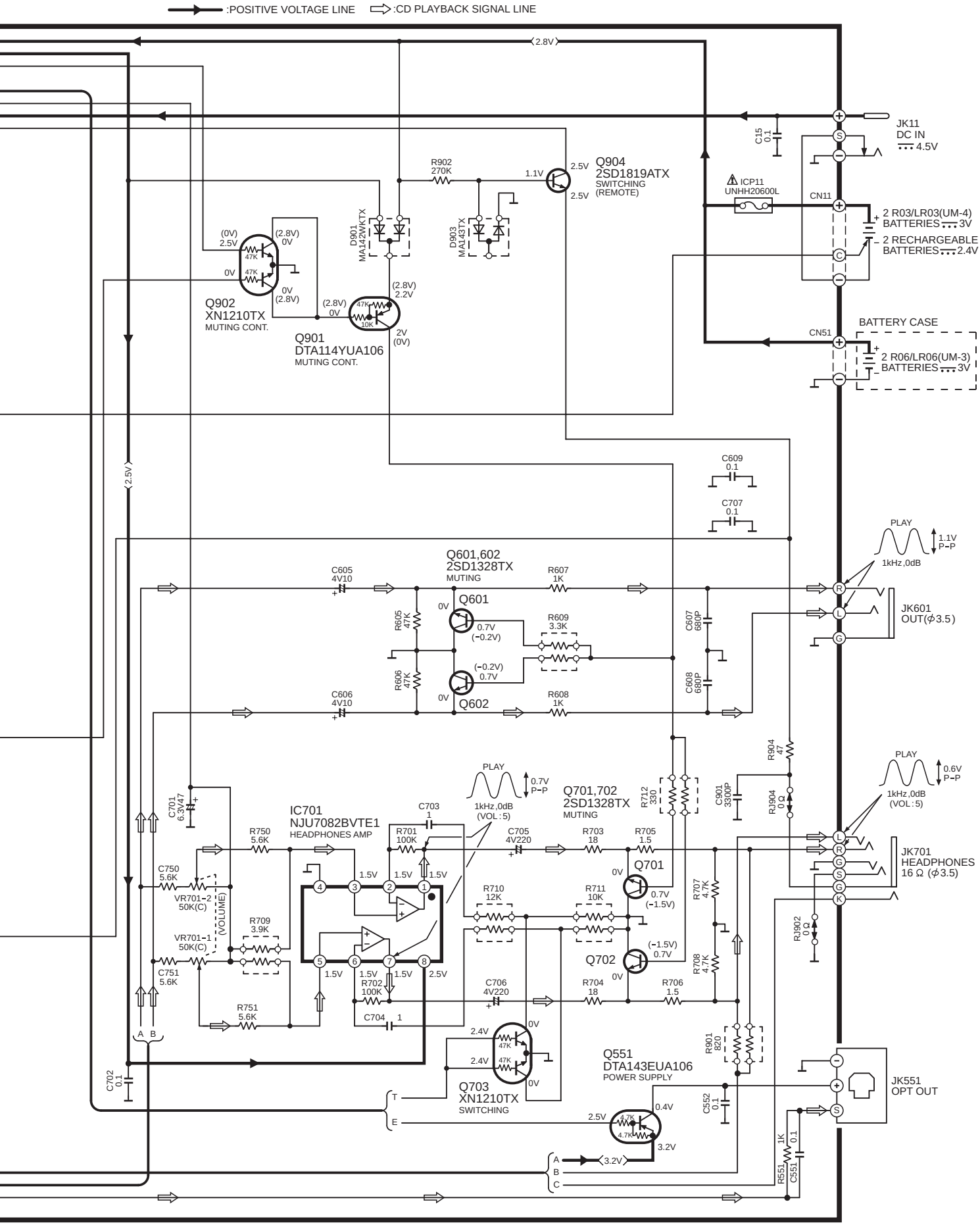

OPERATION/LCD UNIT
:POSITIVE VOLTAGE LINE
LCD301(RSL5248-C)
LCD DISPLAY
S809 (BATT CHECK)
S808
S807
S806 (MEMORY/RECALL)
S805 (EQ)
S804 (A.SHOCK)
S803
S802 (OPR OFF)
S801
CN301
2.5V
3.2V
R306 47K
R3306 0Ω
R325 33K
R322 100K
R323 100K
R324 100K
R301 3.9K
R302 100K
R307 100K
R304 1M
R326 1K
R303 1K
C302 1
C301 1
RJ302 0Ω
IC301
M38224M050HP
SYSTEM CONTROL/
LCD DRIVE
3KEY
DOCTOR
NC
STOP
SKIP.F
SKIP.R
REPEAT
MEMORY
MUTE
BUZ
FG
BOUT
LCD REM
TX POWER
R DATA
R CLK
MLD
MCLK
MDATA
STAT
SEG10
SEG11
SEG12
SEG13
SEG14
SEG15
SEG16
SM
PMSEL
RAMSEL
REMSEL
JUDGE
11T
6T
GUP
PC
BLKCK
RSENSE
PDOWN
ZANSEL
/RESET
BATT STROBE
OPEN
X OSC IN
X OSC OUT
Vss
REST
SHOCK.P
HOLD
RESUME
RANDOM
EQ
BATTERY
PLAY
D301 MA142WKTX
D302 MA142WKTX
S309 (MODE)
NORMAL
RANDOM
RESUME
S310 (HOLD)
ON
OFF
F=4.2336MHz
F=150Hz
T ≒15.2ms.
T ≒13.3ms.

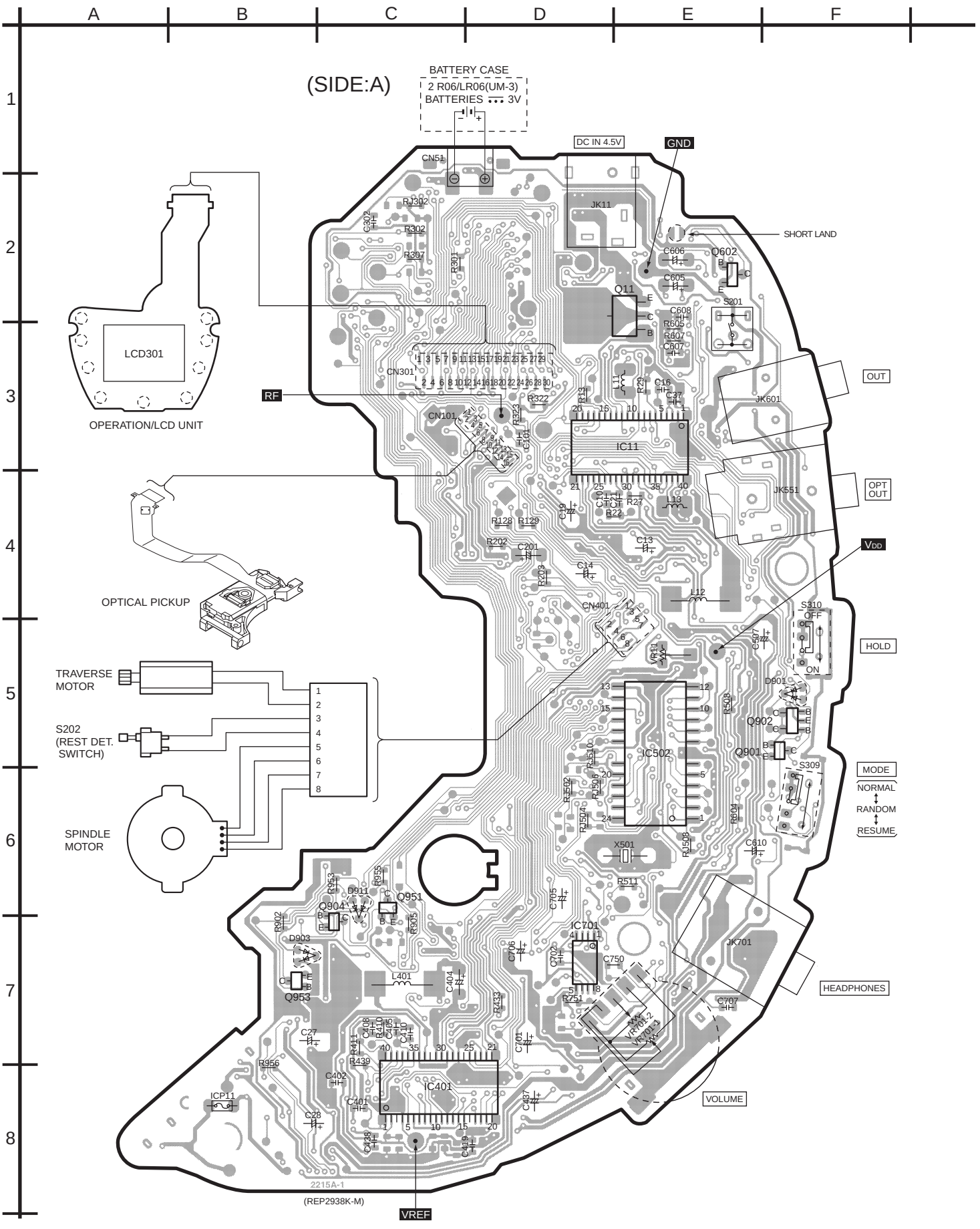

:POSITIVE VOLTAGE LINE
TRAVERSE MOTOR
S202 (REST DET. SWITCH)
SPINDLE MOTOR
CN401
2.5V
3.2V
2.8V
R435 47K
R436 15K
C437 4V47
C438 1500P
R441 180K
B
L
S
Q431
DTA144EUA106
SWITCHING
IC402
BA6966FVE2
MOTOR DRIVE
VOUT
WOUT
N.C.
VM
Vcc
RIB
STBY
BRK+
BRK-
FG
R437 390
R440 47K
UOUT
RF
UIN
VIN
WIN
COM
CST
CSL1
CSL2
GND
R433 33K
R431 1
R432 1
C431 2200P
C432 2200P
C433 2200P
C434 0.47
C435 0.033
C436 0.033
IC401
BH6522FVE2
COIL & MOTOR DRIVE
GND
MUTE (PC)
VG
IN3F
IN3R
NC
PGND3
VO3R
PVcc3
VO3F
PGND34
NC
VM
PVcc4
VLIM
CN4
IN4
OP
INV
NINV
IN2F
IN2R
IN1R
IN1F
NC
MONITOR
PVcc2
VO2R
PGND2
VO2F
PVcc12
VO1F
PGND1
VO1R
PVcc1
CLK
VREF
NC
Vcc
CT
C402 1
C419 1
C401 1000P
C408 0.022
C410 8.2K
R411 39K
Q401
DTC144TUA106
SWITCHING
L401
C404 6.3V22
C406 0.015
R405 33K
C410 1200P
C405 0.012
R404 27K
R406 100K
R403 12K
RJ3 0Ω
R439 2.2K
Q402
2SD1819ATX
SWITCHING
VREF


:POSITIVE VOLTAGE LINE
:CD PLAYBACK SIGNAL LINE
2.8V
2.5V
3.2V
IC502
M51V7400D1FS
16M DRAM
IC501
MN662784SA
SERVO PROCESSOR /
DIGITAL SIGNAL PROCESSOR /
DIGITAL FILTER & D/A CONVERTER
Q603
XN1215TX
MUTING
F=4.2336MHz
F=88.2kHz
F=16.9MHz
F=16.9MHz
F=75Hz
1kHz, 0dB
0.5 µs. 0.2V/DIV.
0.5 µs. 1V/DIV.
T = 13.3ms.
PLAY
GND
VDD

:POSITIVE VOLTAGE LINE :CD PLAYBACK SIGNAL LINE



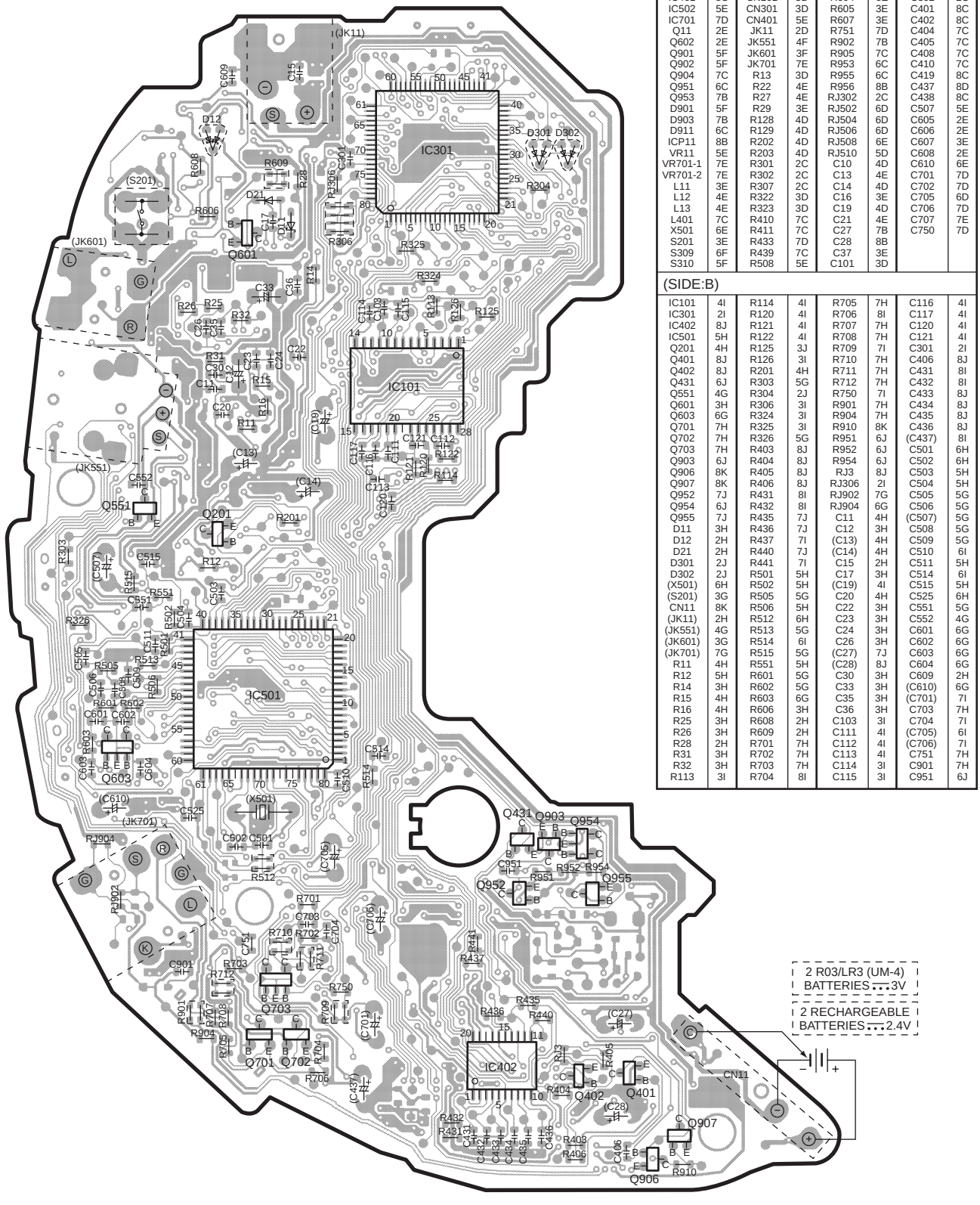

:POSITIVE VOLTAGE LINE
:CD PLAYBACK SIGNAL LINE
2.8V
2.5V
JK11
DC IN
4.5V
C15
0.1
ICP11
UNHH20600L
CN11
2 R03/LR03(UM-4)
BATTERIES 3V
2 RECHARGEABLE
BATTERIES 2.4V
BATTERY CASE
CN51
2 R06/LR06(UM-3)
BATTERIES 3V
R902
270K
Q904
2SD1819ATX
SWITCHING
(REMOTE)
1.1V
2.5V
D901
MA142WKTX
D903
MA143TX
(0V)
2.5V
(2.8V)
0V
47K
0V
(2.8V)
Q902
XN1210TX
MUTING CONT.
(2.8V)
0V
(2.8V)
2.2V
47K
10K
2V
(0V)
Q901
DTA114YUA106
MUTING CONT.
C609
0.1
C707
0.1
PLAY
1.1V
P-P
1kHz,0dB
Q601,602
2SD1328TX
MUTING
C605
4V10
R607
1K
Q601
0V
R605
47K
0.7V
(-0.2V)
R609
3.3K
C607
680P
(-0.2V)
0.7V
R606
47K
C608
680P
0V
Q602
C606
4V10
R608
1K
JK601
OUT(φ3.5)
R904
47
PLAY
0.6V
P-P
1kHz,0dB
(VOL:5)
C901
3300P
RJ904
0Ω
PLAY
0.7V
P-P
1kHz,0dB
(VOL:5)
Q701,702
2SD1328TX
MUTING
R712
330
C701
6.3V47
IC701
NJU7082BVTE1
HEADPHONES AMP
C703
1
R750
5.6K
R701
100K
C705
4V220
R703
18
R705
1.5
Q701
0V
0.7V
(-1.5V)
C750
5.6K
VR701-2
50K(C)
(VOLUME)
VR701-1
50K(C)
R709
3.9K
C751
5.6K
R710
12K
R711
10K
R707
4.7K
(-1.5V)
0.7V
Q702
0V
R708
4.7K
R702
100K
C706
4V220
R704
18
R706
1.5
R751
5.6K
C704
1
RJ902
0Ω
JK701
HEADPHONES
16Ω (φ3.5)
A
B
C702
0.1
2.4V
47K
0V
Q703
XN1210TX
SWITCHING
T
E
R901
820
Q551
DTA143EUA106
POWER SUPPLY
0.4V
2.5V
4.7K
3.2V
C552
0.1
JK551
OPT OUT
R551
1K
C551
0.1
A
B
C
3.2V


(SIDE:A)
BATTERY CASE
2 R06/LR06(UM-3)
BATTERIES 3V
DC IN 4.5V
GND
SHORT LAND
OUT
OPT OUT
VDD
HOLD
MODE
NORMAL
RANDOM
RESUME
HEADPHONES
VOLUME
RF
VREF
OPERATION/LCD UNIT
LCD301
OPTICAL PICKUP
TRAVERSE MOTOR
S202 (REST DET. SWITCH)
SPINDLE MOTOR
CN51
CN301
CN101
CN401
JK11
JK601
JK551
JK701
IC11
IC502
IC701
IC401
Q11
Q602
Q901
Q902
Q904
Q951
Q953
S201
S309
S310
OFF
ON
X501
ICP11
2215A-1
(REP2938K-M)

G H I J K L

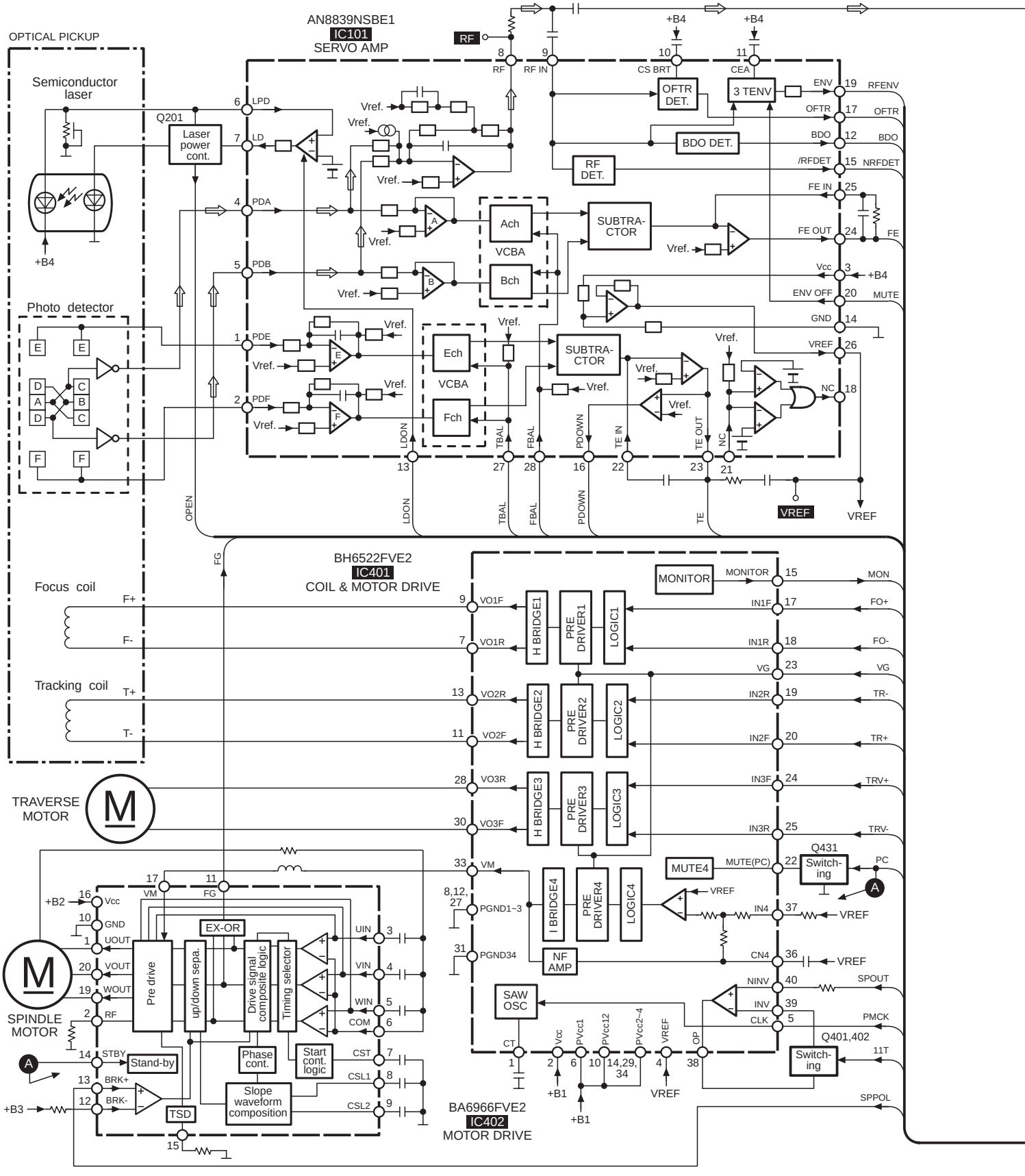
(SIDE:B)

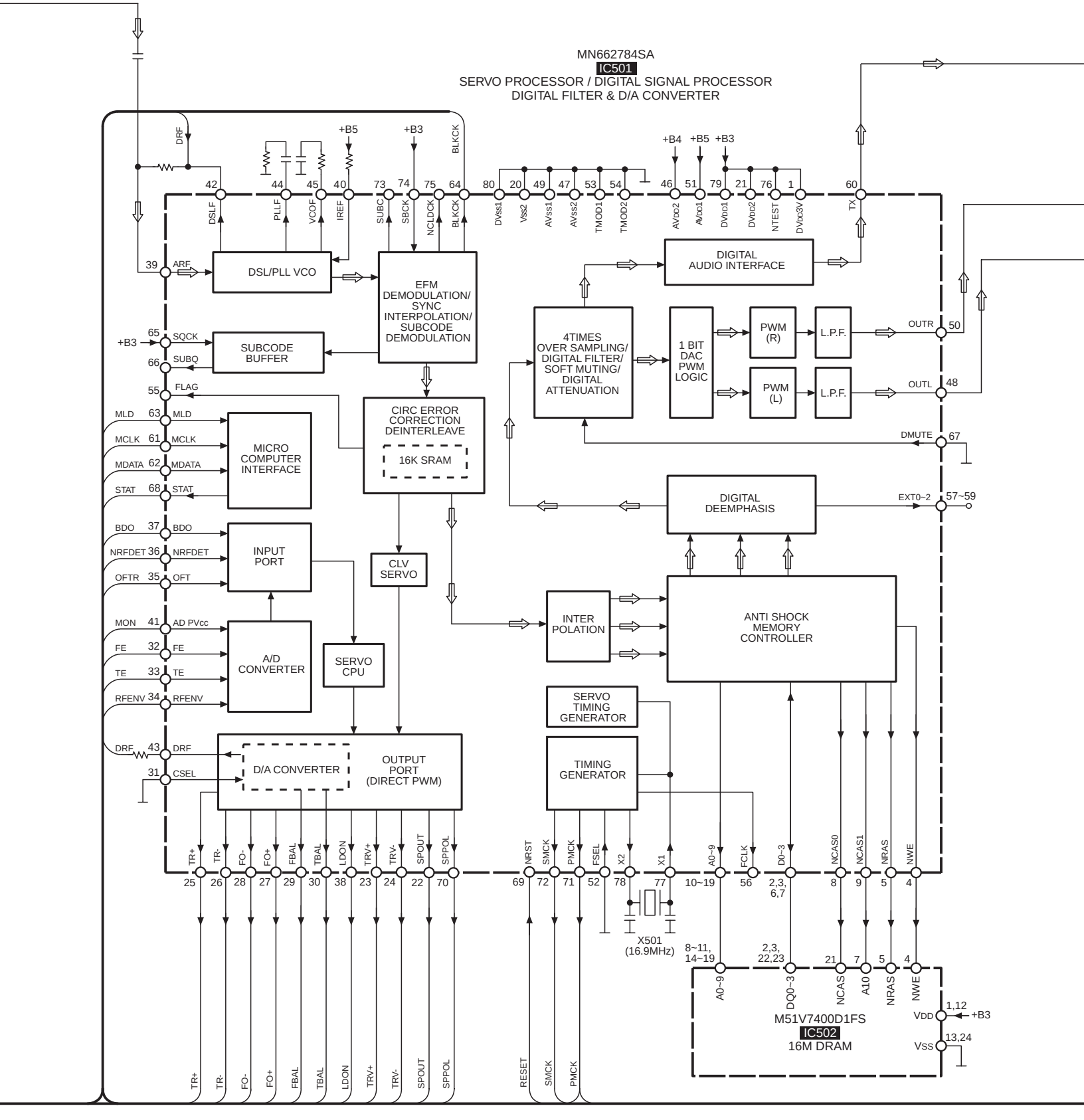
Note: This printed circuit board diagram may be modified at any time with the development of new technology.

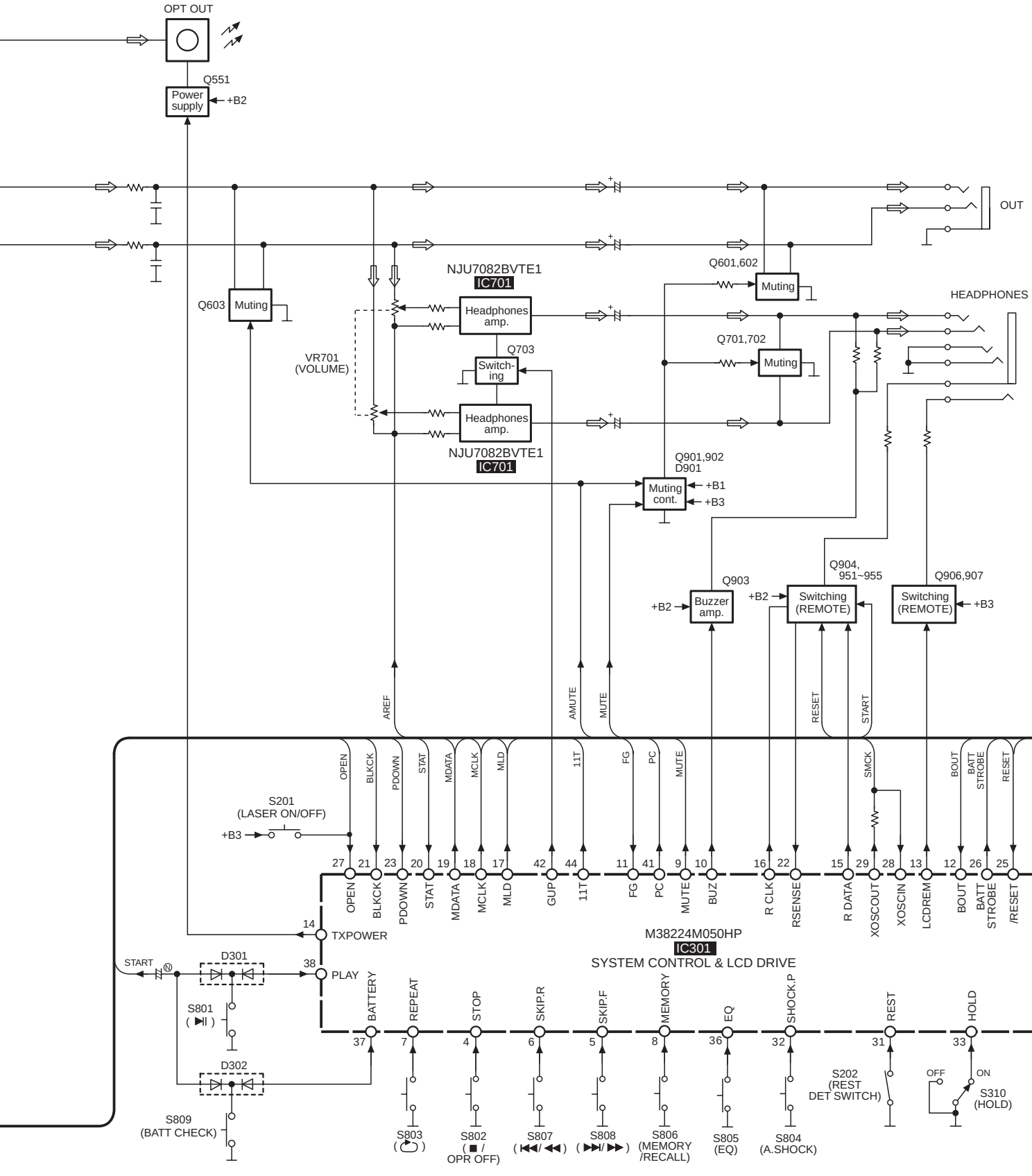


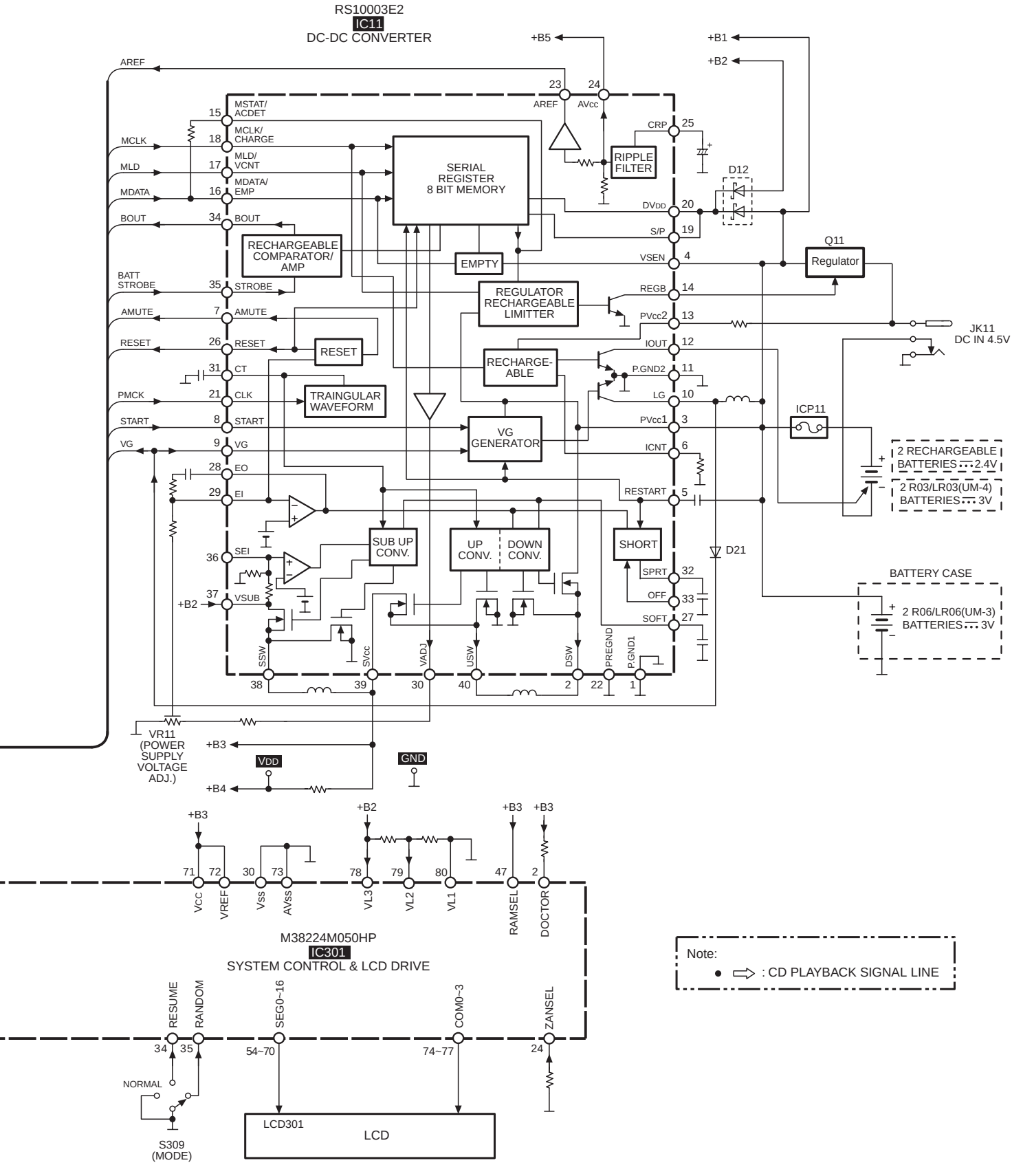
■ ELECTRICAL PARTS LOCATION

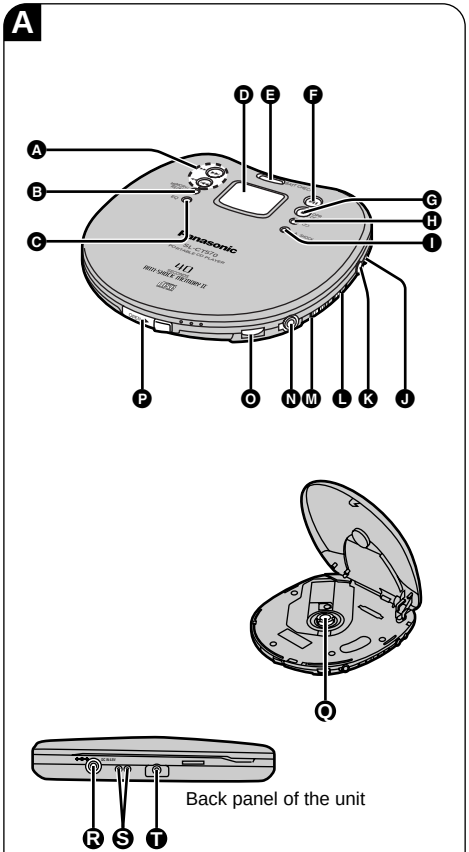
Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
(SIDE:A)							
IC11	3E	CN51	1D	R511	6E	C201	4D
IC401	8C	CN101	3D	R604	6E	C302	2C
IC502	5E	CN301	3D	R605	3E	C401	8C
IC701	7D	CN401	5E	R607	3E	C402	8C
Q11	2E	JK11	2D	R751	7D	C404	7C
Q602	2E	JK551	4F	R902	7B	C405	7C
Q901	5F	JK601	3F	R905	7C	C408	7C
Q902	5F	JK701	7E	R953	6C	C410	7C
Q904	7C	R13	3D	R955	6C	C419	8C
Q951	6C	R22	4E	R956	8B	C437	8D
Q953	7B	R27	4E	RJ302	2C	C438	8C
D901	5F	R29	3E	RJ502	6D	C507	5E
D903	7B	R128	4D	RJ504	6D	C605	2E
D911	6C	R129	4D	RJ506	6D	C606	2E
ICP11	8B	R202	4D	RJ508	6E	C607	3E
VR11	5E	R203	4D	RJ510	5D	C608	2E
VR701-1	7E	R301	2C	C10	4D	C610	6E
VR701-2	7E	R302	2C	C13	4E	C701	7D
L11	3E	R307	2C	C14	4D	C702	7D
L12	4E	R322	3D	C16	3E	C705	6D
L13	4E	R323	3D	C19	4D	C706	7D
L401	7C	R410	7C	C21	4E	C707	7E
X501	6E	R411	7C	C27	7B	C750	7D
S201	3E	R433	7D	C28	8B		
S309	6F	R439	7C	C37	3E		
S310	5F	R508	5E	C101	3D		
(SIDE:B)							
IC101	4I	R114	4I	R705	7H	C116	4I
IC301	2I	R120	4I	R706	8I	C117	4I
IC402	8J	R121	4I	R707	7H	C120	4I
IC501	5H	R122	4I	R708	7H	C121	4I
Q201	4H	R125	3J	R709	7I	C301	2I
Q401	8J	R126	3I	R710	7H	C406	8J
Q402	8J	R201	4H	R711	7H	C431	8I
Q431	6J	R303	5G	R712	7H	C432	8I
Q551	4G	R304	2J	R750	7I	C433	8J
Q601	3H	R306	3I	R901	7H	C434	8J
Q603	6G	R324	3I	R904	7H	C435	8J
Q701	7H	R325	3I	R910	8K	C436	8J
Q702	7H	R326	5G	R951	6J	(C437)	8I
Q703	7H	R403	8J	R952	6J	C501	6H
Q903	6J	R404	8J	R954	6J	C502	6H
Q906	8K	R405	8J	RJ3	8J	C503	5H
Q907	8K	R406	8J	RJ306	2I	C504	5H
Q952	7J	R431	8I	RJ902	7G	C505	5G
Q954	6J	R432	8I	RJ904	6G	C506	5G
Q955	7J	R435	7J	C11	4H	(C507)	5G
D11	3H	R436	7J	C12	3H	C508	5G
D12	2H	R437	7I	(C13)	4H	C509	5G
D21	2H	R440	7J	(C14)	4H	C510	6I
D301	2J	R441	7I	C15	2H	C511	5H
D302	2J	R501	5H	C17	3H	C514	6I
(X501)	6H	R502	5H	(C19)	4I	C515	5H
(S201)	3G	R505	5G	C20	4H	C525	6H
CN11	8K	R506	5H	C22	3H	C551	5G
(JK11)	2H	R512	6H	C23	3H	C552	4G
(JK551)	4G	R513	5G	C24	3H	C601	6G
(JK601)	3G	R514	6I	C26	3H	C602	6G
(JK701)	7G	R515	5G	(C27)	7J	C603	6G
R11	4H	R551	5H	(C28)	8J	C604	6G
R12	5H	R601	5G	C30	3H	C609	2H
R14	3H	R602	5G	C33	3H	(C610)	6G
R15	4H	R603	6G	C35	3H	(C701)	7I
R16	4H	R606	3H	C36	3H	C703	7H
R25	3H	R608	2H	C103	3I	C704	7I
R26	3H	R609	2H	C111	4I	(C705)	6I
R28	2H	R701	7H	C112	4I	(C706)	7I
R31	3H	R702	7H	C113	4I	C751	7H
R32	3H	R703	7H	C114	3I	C901	7H
R113	3I	R704	8I	C115	3I	C951	6J

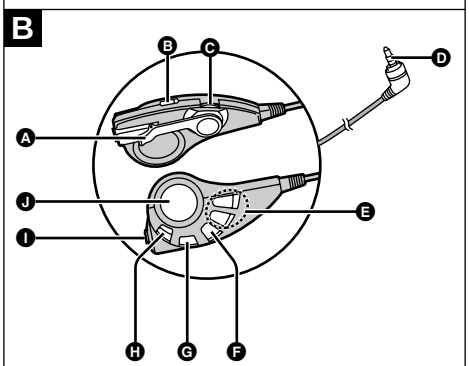

OPTICAL PICKUP
Semiconductor laser
Photo detector
AN8839NSBE1
IC101
SERVO AMP
Q201
Laser power cont.
+B4
RF
RF IN
CS BRT
CEA
OFTR DET.
3 TENV
BDO DET.
RF DET.
ENV
OFTR
BDO
/RFDET
RFENV
NRFDET
LPD
LD
PDA
PDB
PDE
PDF
Vref.
Ach
Bch
Ech
Fch
VCBA
SUBTRA-CTOR
FE IN
FE OUT
FE
Vcc
ENV OFF
MUTE
GND
VREF
NC
LDON
TBAL
FBAL
PDOWN
TE IN
TE OUT
OPEN
TE
VREF
BH6522FVE2
IC401
COIL & MOTOR DRIVE
FG
Focus coil
F+
F-
Tracking coil
T+
T-
TRAVERSE MOTOR
SPINDLE MOTOR
MONITOR
MON
VO1F
VO1R
VO2R
VO2F
VO3R
VO3F
VM
PGND1~3
PGND34
H BRIDGE1
H BRIDGE2
H BRIDGE3
I BRIDGE4
PRE DRIVER1
PRE DRIVER2
PRE DRIVER3
PRE DRIVER4
LOGIC1
LOGIC2
LOGIC3
LOGIC4
IN1F
IN1R
IN2R
IN2F
IN3F
IN3R
IN4
VG
FO+
FO-
TR-
TR+
TRV+
TRV-
MUTE4
MUTE(PC)
PC
Q431
Switch-ing
CN4
NF AMP
SAW OSC
NINV
INV
CLK
SPOUT
PMCK
Q401,402
11T
SPPOL
CT
PVcc1
PVcc12
PVcc2~4
OP
+B1
+B2
+B3
Pre drive
up/down sepa.
Drive signal composite logic
Timing selector
EX-OR
UIN
VIN
WIN
COM
Phase cont.
Start cont. logic
CST
CSL1
CSL2
Slope waveform composition
TSD
Stand-by
STBY
BRK+
BRK-
UOUT
VOUT
WOUT
RF
BA6966FVE2
IC402
MOTOR DRIVE

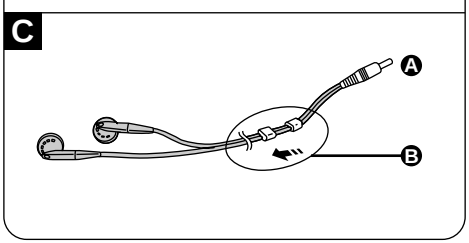

MN662784SA
IC501
SERVO PROCESSOR / DIGITAL SIGNAL PROCESSOR
DIGITAL FILTER & D/A CONVERTER
DRF
+B5
+B3
BLKCK
+B4
+B5
+B3
DSLF
PLLF
VCOF
IREF
SUBC
SBCK
NCLDCK
BLKCK
DVss1
Vss2
AVss1
AVss2
TMOD1
TMOD2
AVDD2
AVDD1
DVDD1
DVDD2
NTEST
DVDD3V
TX
ARF
DSL/PLL VCO
EFM DEMODULATION/ SYNC INTERPOLATION/ SUBCODE DEMODULATION
DIGITAL AUDIO INTERFACE
SQCK
SUBQ
SUBCODE BUFFER
FLAG
4TIMES OVER SAMPLING/ DIGITAL FILTER/ SOFT MUTING/ DIGITAL ATTENUATION
1 BIT DAC PWM LOGIC
PWM (R)
PWM (L)
L.P.F.
L.P.F.
OUTR
OUTL
DMUTE
MLD
MCLK
MDATA
STAT
MICRO COMPUTER INTERFACE
CIRC ERROR CORRECTION DEINTERLEAVE
16K SRAM
DIGITAL DEEMPHASIS
EXT0~2
BDO
NRFDET
OFTR
INPUT PORT
CLV SERVO
INTER POLATION
ANTI SHOCK MEMORY CONTROLLER
MON
FE
TE
RFENV
AD PVcc
A/D CONVERTER
SERVO CPU
SERVO TIMING GENERATOR
TIMING GENERATOR
DRF
CSEL
D/A CONVERTER
OUTPUT PORT (DIRECT PWM)
TR+
TR-
FO-
FO+
FBAL
TBAL
LDON
TRV+
TRV-
SPOUT
SPPOL
NRST
SMCK
PMCK
FSEL
X2
X1
A0~9
FCLK
D0~3
NCAS0
NCAS1
NRAS
NWE
X501
(16.9MHz)
M51V7400D1FS
IC502
16M DRAM
DQ0~3
NCAS
A10
VDD
VSS
RESET


OPT OUT
Q551
Power supply
+B2
OUT
NJU7082BVTE1
IC701
Q603
Muting
Headphones amp.
VR701 (VOLUME)
Q703
Switch-ing
Q601,602
Q701,702
HEADPHONES
Q901,902
D901
Muting cont.
+B1
+B3
Q903
Buzzer amp.
Q904, 951~955
Switching (REMOTE)
Q906,907
AREF
AMUTE
MUTE
RESET
START
S201 (LASER ON/OFF)
OPEN
BLKCK
PDOWN
STAT
MDATA
MCLK
MLD
GUP
11T
FG
PC
BUZ
R CLK
RSENSE
R DATA
XOSCOUT
XOSCIN
LCDREM
BOUT
BATT STROBE
/RESET
SMCK
TXPOWER
M38224M050HP
IC301
SYSTEM CONTROL & LCD DRIVE
START
D301
D302
PLAY
S801 (▶II)
S809 (BATT CHECK)
BATTERY
REPEAT
STOP
SKIP.R
SKIP.F
MEMORY
EQ
SHOCK.P
REST
HOLD
S803 ( )
S802 (■ / OPR OFF)
S807 (⏮/ ◀◀)
S808 (▶▶⏭)
S806 (MEMORY /RECALL)
S805 (EQ)
S804 (A.SHOCK)
S202 (REST DET SWITCH)
OFF
ON
S310 (HOLD)


RS10003E2
IC11
DC-DC CONVERTER
+B5
+B1
+B2
AREF
23
24
AREF
AVcc
MSTAT/ ACDET
15
MCLK/ CHARGE
18
MLD/ VCNT
17
MDATA/ EMP
16
BOUT
34
BOUT
MCLK
MLD
MDATA
SERIAL REGISTER 8 BIT MEMORY
RIPPLE FILTER
CRP
25
D12
DVDD
20
S/P
19
VSEN
4
Q11
Regulator
RECHARGEABLE COMPARATOR/ AMP
EMPTY
REGULATOR RECHARGEABLE LIMITTER
REGB
14
PVcc2
13
JK11
DC IN 4.5V
BATT STROBE
35
STROBE
AMUTE
7
AMUTE
RESET
26
RESET
RESET
IOUT
12
RECHARGE-ABLE
P.GND2
11
LG
10
CT
31
PMCK
21
CLK
TRAINGULAR WAVEFORM
START
8
START
VG
9
VG
VG GENERATOR
PVcc1
3
ICP11
ICNT
6
2 RECHARGEABLE BATTERIES 2.4V
2 R03/LR03(UM-4) BATTERIES 3V
28
EO
29
EI
RESTART
5
SUB UP CONV.
UP CONV.
DOWN CONV.
SHORT
D21
36
SEI
37
VSUB
+B2
SPRT
32
OFF
33
SOFT
27
BATTERY CASE
2 R06/LR06(UM-3) BATTERIES 3V
SSW
SVcc
VADJ
USW
DSW
PREGND
P.GND1
38
39
30
40
2
22
1
VR11 (POWER SUPPLY VOLTAGE ADJ.)
+B3
+B4
VDD
GND
+B3
+B2
+B3
+B3
71
72
30
73
78
79
80
47
2
Vcc
VREF
Vss
AVss
VL3
VL2
VL1
RAMSEL
DOCTOR
M38224M050HP
IC301
SYSTEM CONTROL & LCD DRIVE
RESUME
RANDOM
SEG0~16
COM0~3
ZANSEL
34
35
54~70
74~77
24
NORMAL
S309 (MODE)
LCD301
LCD
Note:
: CD PLAYBACK SIGNAL LINE







Portable CD player A

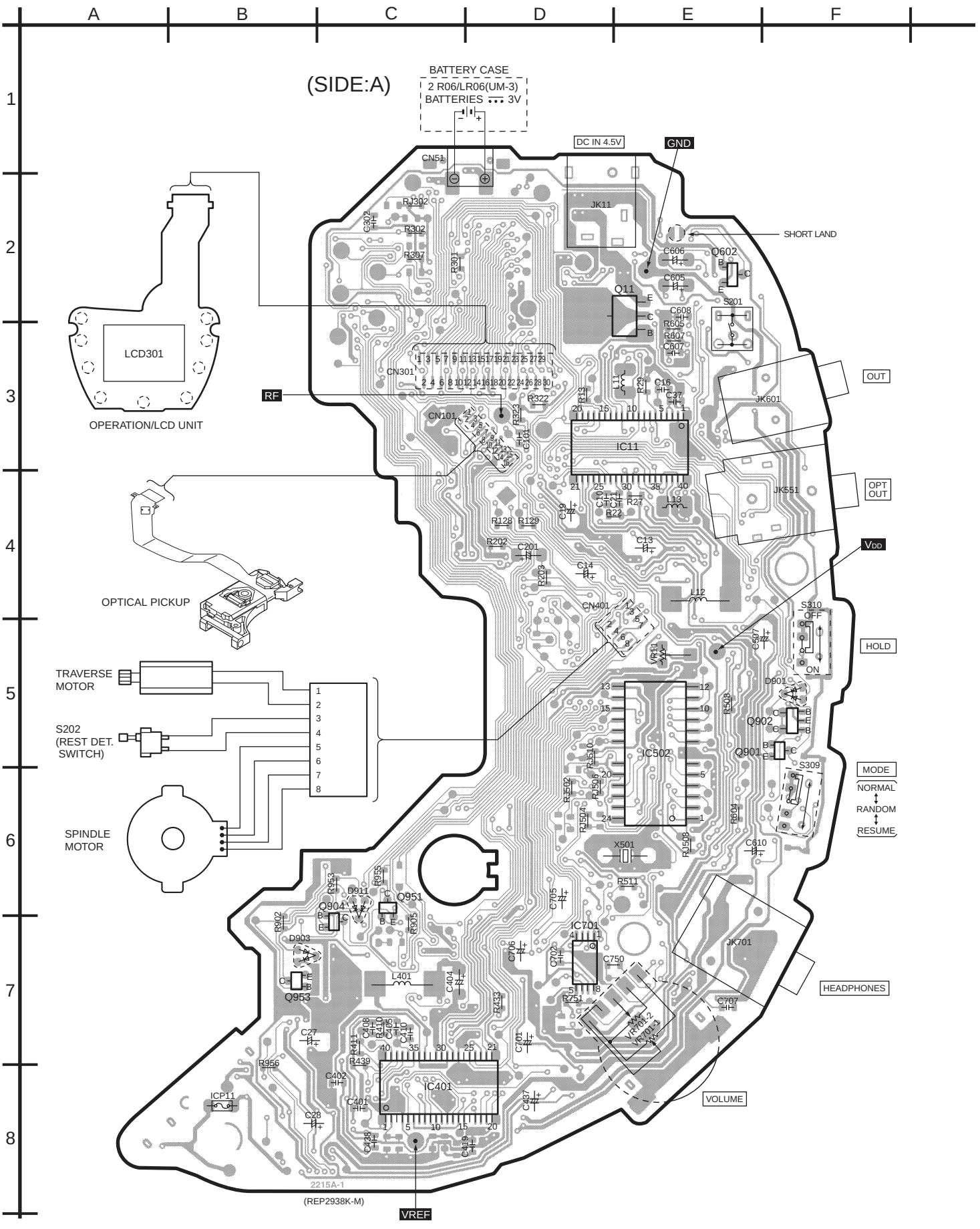
- Ⓐ Skip/search buttons (⏮, ⏭ ◀◀, ▶▶)
- Ⓑ Memory/recall button (MEMORY/RECALL)
- Ⓒ EQ button (EQ)
- Ⓓ Display
- Ⓔ Battery check button (BATT CHECK)
- Ⓕ Play/pause button (▶ ❚❚)
- Ⓖ Stop/operation off button (■, OPR OFF)
- Ⓗ Repeat button ( )
- Ⓘ Anti-shock button (A.SHOCK)
- Ⓙ Out jack (OUT)
- Ⓚ Optical digital out jack (OPT OUT)
- Ⓛ Hold switch (HOLD)
- Ⓜ Play mode selector (RESUME, RANDOM, NORMAL)
- Ⓝ Headphones jack ( )
- Ⓞ Headphones volume control (VOLUME)
- Ⓟ Open switch (OPEN)
- Ⓠ CD release button (PUSH)
- Ⓡ DC in jack (DC IN 4.5 V)
- Ⓢ Connection terminal for external battery case
- Ⓣ Hole for car insulator mounting screw/external battery case

Wired remote control B

- Ⓐ Clip
- Ⓑ Hold switch (HOLD)
- Ⓒ Volume control (VOLUME)
- Ⓓ Plug
- Ⓔ Skip/search buttons (⏮, ⏭)
- Ⓕ Play/stop/off button (■/▶)
- Ⓖ EQ button (EQ)
- Ⓗ Repeat button ( )
- Ⓘ Earphone jack
- Ⓙ Display

Stereo earphones C

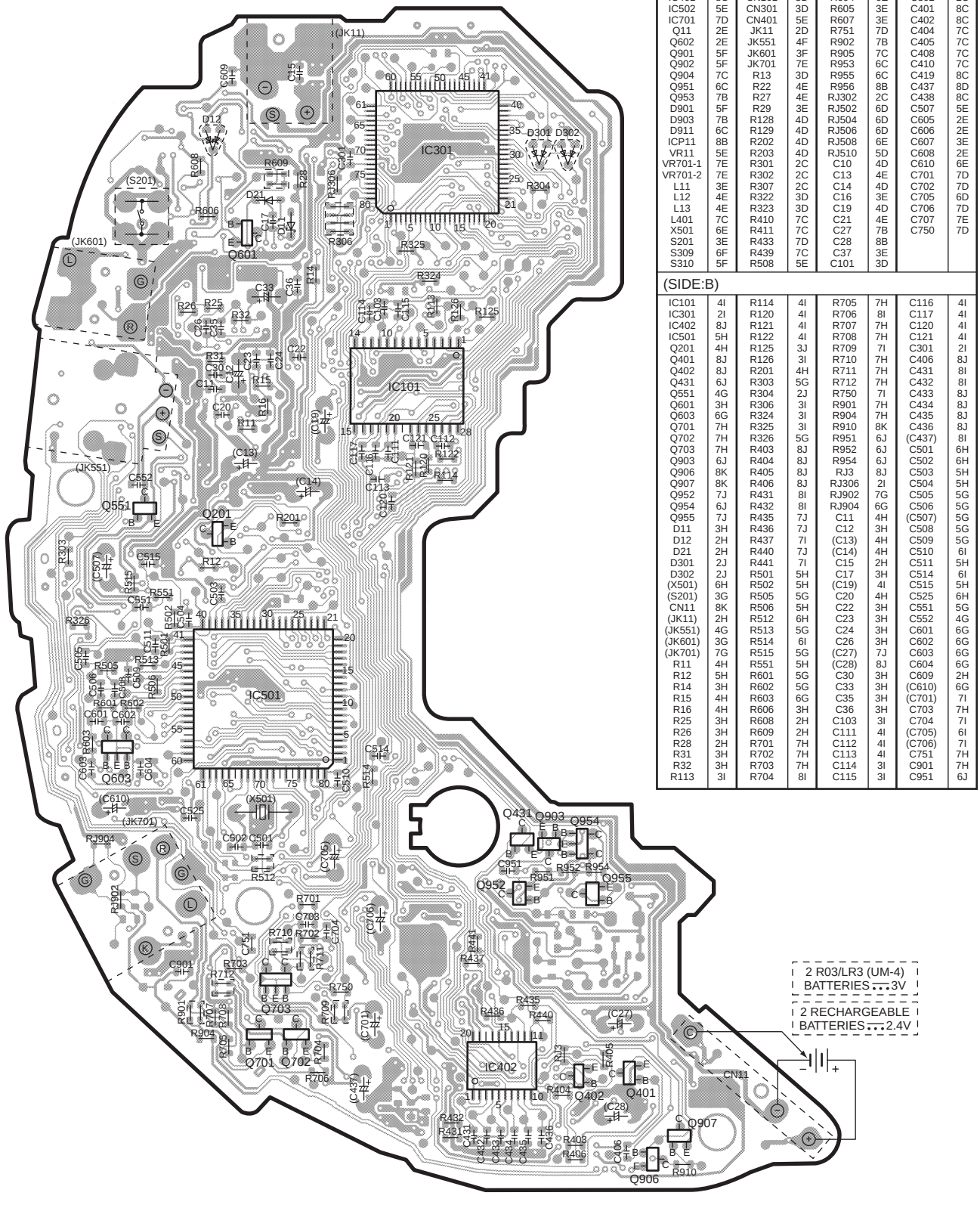
- Ⓐ Plug
- Ⓑ Slider


(SIDE:A)
BATTERY CASE
2 R06/LR06(UM-3)
BATTERIES 3V
DC IN 4.5V
GND
SHORT LAND
OUT
OPT OUT
VDD
HOLD
MODE
NORMAL
RANDOM
RESUME
HEADPHONES
VOLUME
RF
VREF
OPERATION/LCD UNIT
LCD301
OPTICAL PICKUP
TRAVERSE MOTOR
S202 (REST DET. SWITCH)
SPINDLE MOTOR
CN51
CN301
CN101
CN401
JK11
JK601
JK551
JK701
IC11
IC502
IC701
IC401
Q11
Q602
Q901
Q902
Q904
Q951
Q953
S201
S309
S310
OFF
ON
X501
ICP11
2215A-1
(REP2938K-M)

G H I J K L

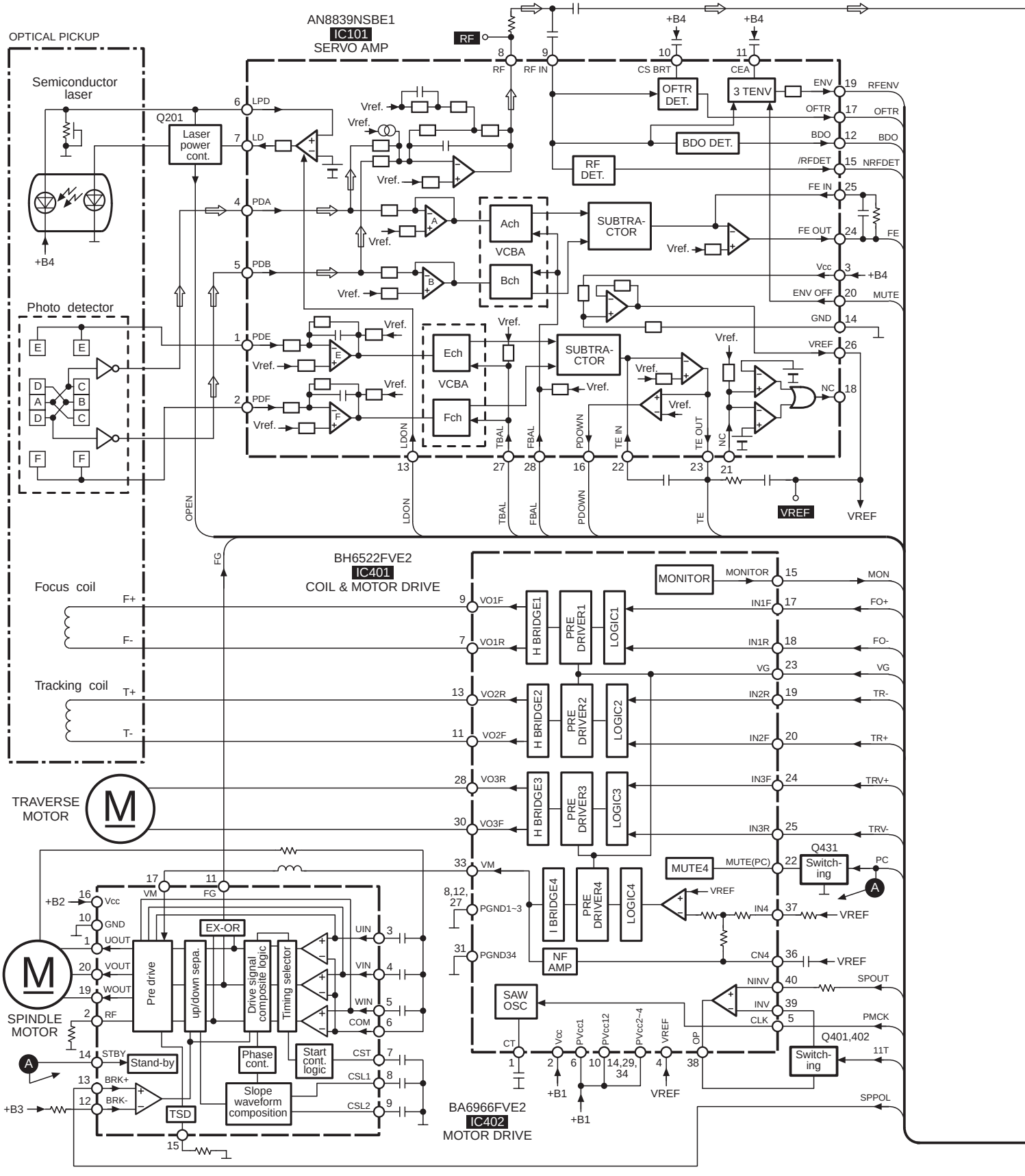
(SIDE:B)

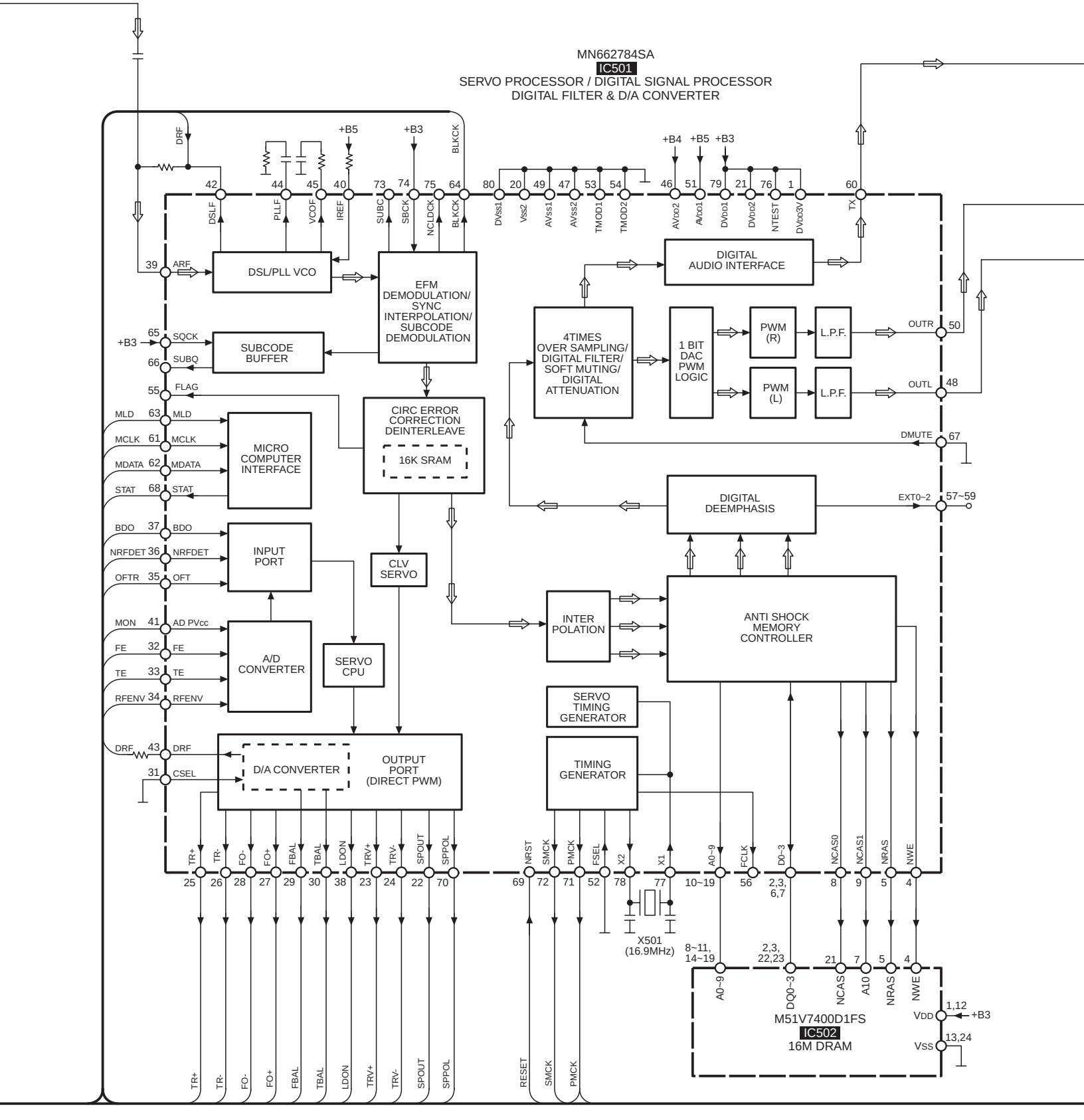
Note: This printed circuit board diagram may be modified at any time with the development of new technology.

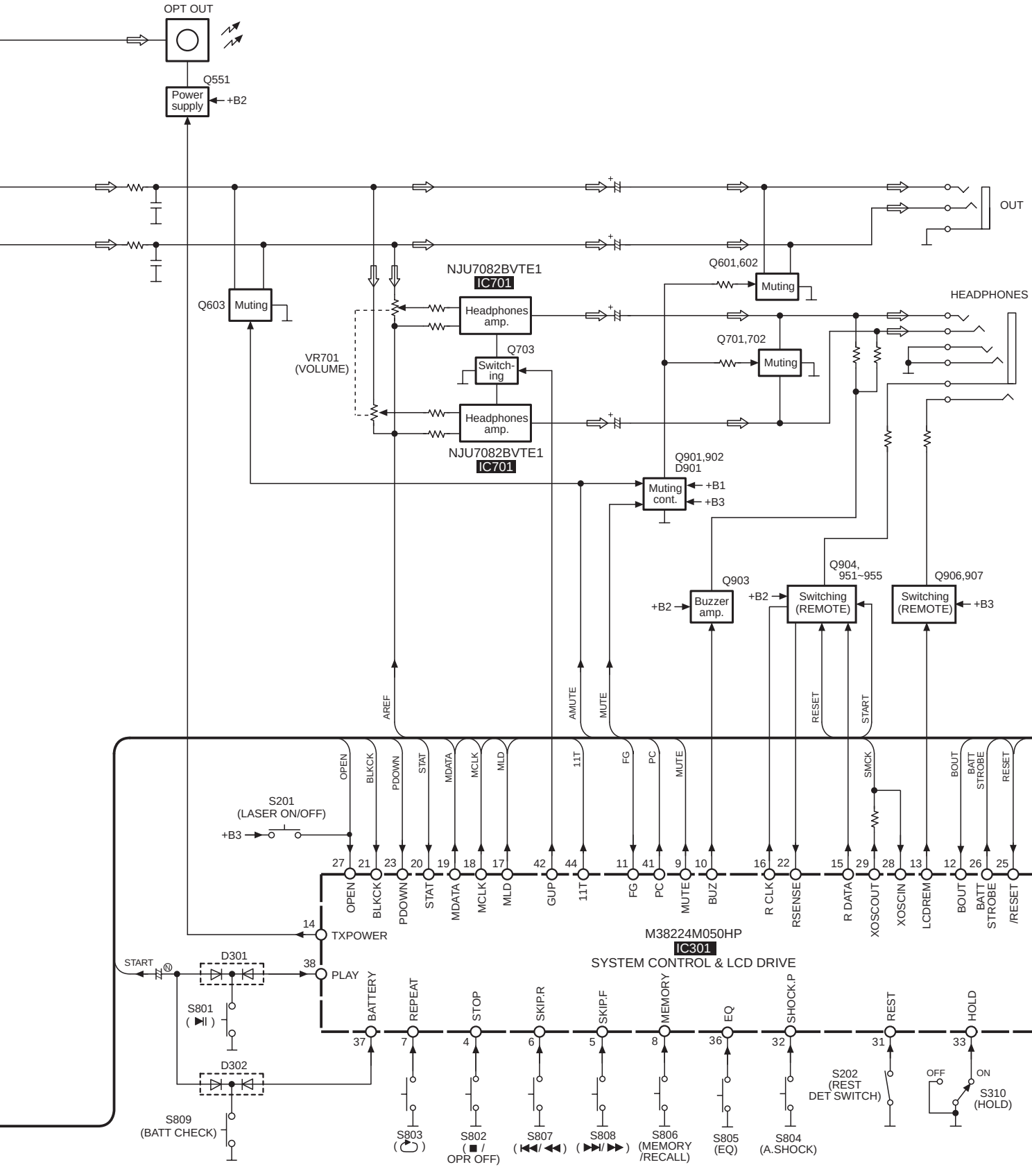


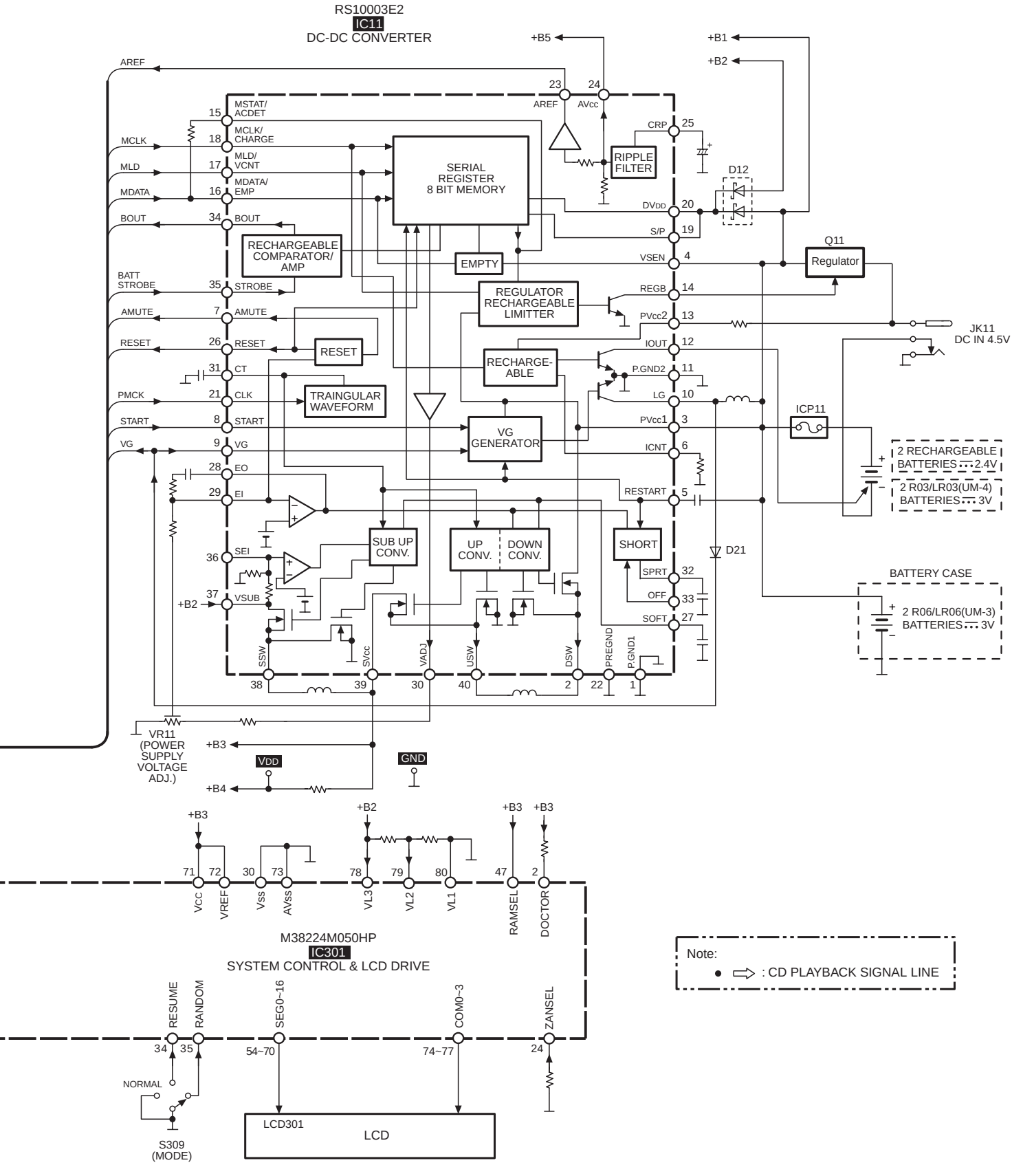
■ ELECTRICAL PARTS LOCATION

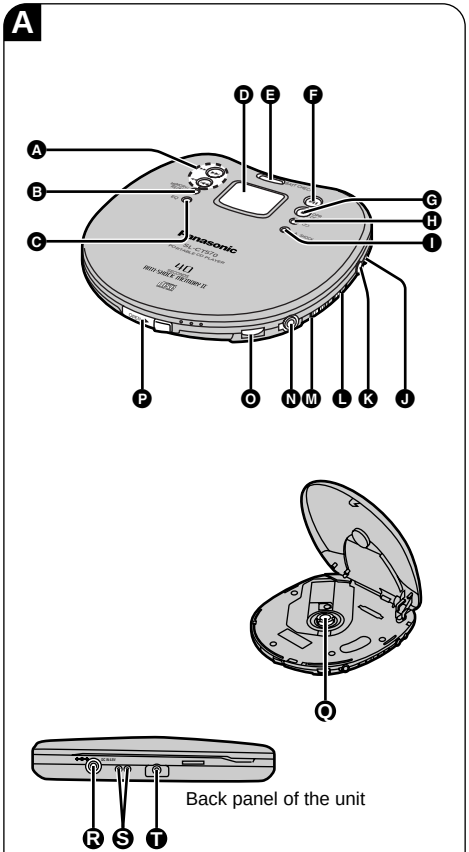
Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
(SIDE:A)							
IC11	3E	CN51	1D	R511	6E	C201	4D
IC401	8C	CN101	3D	R604	6E	C302	2C
IC502	5E	CN301	3D	R605	3E	C401	8C
IC701	7D	CN401	5E	R607	3E	C402	8C
Q11	2E	JK11	2D	R751	7D	C404	7C
Q602	2E	JK551	4F	R902	7B	C405	7C
Q901	5F	JK601	3F	R905	7C	C408	7C
Q902	5F	JK701	7E	R953	6C	C410	7C
Q904	7C	R13	3D	R955	6C	C419	8C
Q951	6C	R22	4E	R956	8B	C437	8D
Q953	7B	R27	4E	RJ302	2C	C438	8C
D901	5F	R29	3E	RJ502	6D	C507	5E
D903	7B	R128	4D	RJ504	6D	C605	2E
D911	6C	R129	4D	RJ506	6D	C606	2E
ICP11	8B	R202	4D	RJ508	6E	C607	3E
VR11	5E	R203	4D	RJ510	5D	C608	2E
VR701-1	7E	R301	2C	C10	4D	C610	6E
VR701-2	7E	R302	2C	C13	4E	C701	7D
L11	3E	R307	2C	C14	4D	C702	7D
L12	4E	R322	3D	C16	3E	C705	6D
L13	4E	R323	3D	C19	4D	C706	7D
L401	7C	R410	7C	C21	4E	C707	7E
X501	6E	R411	7C	C27	7B	C750	7D
S201	3E	R433	7D	C28	8B		
S309	6F	R439	7C	C37	3E		
S310	5F	R508	5E	C101	3D		
(SIDE:B)							
IC101	4I	R114	4I	R705	7H	C116	4I
IC301	2I	R120	4I	R706	8I	C117	4I
IC402	8J	R121	4I	R707	7H	C120	4I
IC501	5H	R122	4I	R708	7H	C121	4I
Q201	4H	R125	3J	R709	7I	C301	2I
Q401	8J	R126	3I	R710	7H	C406	8J
Q402	8J	R201	4H	R711	7H	C431	8I
Q431	6J	R303	5G	R712	7H	C432	8I
Q551	4G	R304	2J	R750	7I	C433	8J
Q601	3H	R306	3I	R901	7H	C434	8J
Q603	6G	R324	3I	R904	7H	C435	8J
Q701	7H	R325	3I	R910	8K	C436	8J
Q702	7H	R326	5G	R951	6J	(C437)	8I
Q703	7H	R403	8J	R952	6J	C501	6H
Q903	6J	R404	8J	R954	6J	C502	6H
Q906	8K	R405	8J	RJ3	8J	C503	5H
Q907	8K	R406	8J	RJ306	2I	C504	5H
Q952	7J	R431	8I	RJ902	7G	C505	5G
Q954	6J	R432	8I	RJ904	6G	C506	5G
Q955	7J	R435	7J	C11	4H	(C507)	5G
D11	3H	R436	7J	C12	3H	C508	5G
D12	2H	R437	7I	(C13)	4H	C509	5G
D21	2H	R440	7J	(C14)	4H	C510	6I
D301	2J	R441	7I	C15	2H	C511	5H
D302	2J	R501	5H	C17	3H	C514	6I
(X501)	6H	R502	5H	(C19)	4I	C515	5H
(S201)	3G	R505	5G	C20	4H	C525	6H
CN11	8K	R506	5H	C22	3H	C551	5G
(JK11)	2H	R512	6H	C23	3H	C552	4G
(JK551)	4G	R513	5G	C24	3H	C601	6G
(JK601)	3G	R514	6I	C26	3H	C602	6G
(JK701)	7G	R515	5G	(C27)	7J	C603	6G
R11	4H	R551	5H	(C28)	8J	C604	6G
R12	5H	R601	5G	C30	3H	C609	2H
R14	3H	R602	5G	C33	3H	(C610)	6G
R15	4H	R603	6G	C35	3H	(C701)	7I
R16	4H	R606	3H	C36	3H	C703	7H
R25	3H	R608	2H	C103	3I	C704	7I
R26	3H	R609	2H	C111	4I	(C705)	6I
R28	2H	R701	7H	C112	4I	(C706)	7I
R31	3H	R702	7H	C113	4I	C751	7H
R32	3H	R703	7H	C114	3I	C901	7H
R113	3I	R704	8I	C115	3I	C951	6J

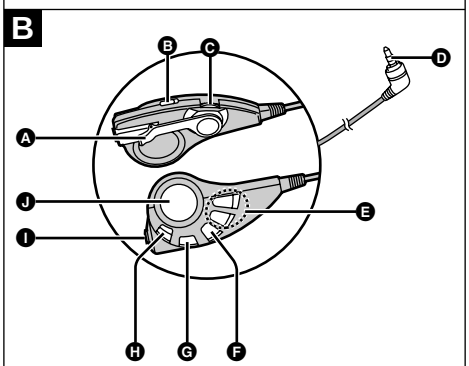

OPTICAL PICKUP
Semiconductor laser
Photo detector
AN8839NSBE1
IC101
SERVO AMP
Q201
Laser power cont.
+B4
RF
RF IN
CS BRT
CEA
OFTR DET.
3 TENV
BDO DET.
RF DET.
ENV
OFTR
BDO
/RFDET
RFENV
NRFDET
LPD
LD
PDA
PDB
PDE
PDF
Vref.
Ach
Bch
Ech
Fch
VCBA
SUBTRA-CTOR
FE IN
FE OUT
FE
Vcc
ENV OFF
MUTE
GND
VREF
NC
LDON
TBAL
FBAL
PDOWN
TE IN
TE OUT
OPEN
TE
VREF
BH6522FVE2
IC401
COIL & MOTOR DRIVE
FG
Focus coil
F+
F-
Tracking coil
T+
T-
TRAVERSE MOTOR
SPINDLE MOTOR
MONITOR
MON
VO1F
VO1R
VO2R
VO2F
VO3R
VO3F
VM
PGND1~3
PGND34
H BRIDGE1
H BRIDGE2
H BRIDGE3
I BRIDGE4
PRE DRIVER1
PRE DRIVER2
PRE DRIVER3
PRE DRIVER4
LOGIC1
LOGIC2
LOGIC3
LOGIC4
IN1F
IN1R
IN2R
IN2F
IN3F
IN3R
IN4
VG
FO+
FO-
TR-
TR+
TRV+
TRV-
MUTE4
MUTE(PC)
PC
Q431
Switch-ing
CN4
NF AMP
SAW OSC
NINV
INV
CLK
SPOUT
PMCK
Q401,402
11T
SPPOL
CT
PVcc1
PVcc12
PVcc2~4
OP
+B1
+B2
+B3
Pre drive
up/down sepa.
Drive signal composite logic
Timing selector
EX-OR
UIN
VIN
WIN
COM
Phase cont.
Start cont. logic
CST
CSL1
CSL2
Slope waveform composition
TSD
Stand-by
STBY
BRK+
BRK-
UOUT
VOUT
WOUT
RF
BA6966FVE2
IC402
MOTOR DRIVE

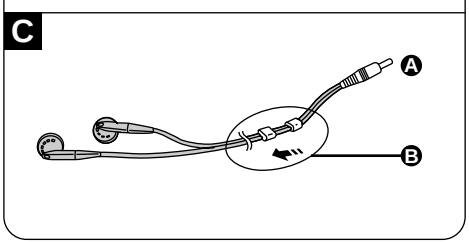

MN662784SA
IC501
SERVO PROCESSOR / DIGITAL SIGNAL PROCESSOR
DIGITAL FILTER & D/A CONVERTER
DRF
+B5
+B3
BLKCK
+B4
+B5
+B3
DSLF
PLLF
VCOF
IREF
SUBC
SBCK
NCLDCK
BLKCK
DVss1
Vss2
AVss1
AVss2
TMOD1
TMOD2
AVDD2
AVDD1
DVDD1
DVDD2
NTEST
DVDD3V
TX
ARF
DSL/PLL VCO
EFM DEMODULATION/ SYNC INTERPOLATION/ SUBCODE DEMODULATION
DIGITAL AUDIO INTERFACE
SQCK
SUBQ
SUBCODE BUFFER
FLAG
4TIMES OVER SAMPLING/ DIGITAL FILTER/ SOFT MUTING/ DIGITAL ATTENUATION
1 BIT DAC PWM LOGIC
PWM (R)
PWM (L)
L.P.F.
L.P.F.
OUTR
OUTL
DMUTE
MLD
MCLK
MDATA
STAT
MICRO COMPUTER INTERFACE
CIRC ERROR CORRECTION DEINTERLEAVE
16K SRAM
DIGITAL DEEMPHASIS
EXT0~2
BDO
NRFDET
OFTR
INPUT PORT
CLV SERVO
INTER POLATION
ANTI SHOCK MEMORY CONTROLLER
MON
FE
TE
RFENV
AD PVcc
A/D CONVERTER
SERVO CPU
SERVO TIMING GENERATOR
TIMING GENERATOR
DRF
CSEL
D/A CONVERTER
OUTPUT PORT (DIRECT PWM)
TR+
TR-
FO-
FO+
FBAL
TBAL
LDON
TRV+
TRV-
SPOUT
SPPOL
NRST
SMCK
PMCK
FSEL
X2
X1
A0~9
FCLK
D0~3
NCAS0
NCAS1
NRAS
NWE
X501
(16.9MHz)
M51V7400D1FS
IC502
16M DRAM
DQ0~3
NCAS
A10
VDD
VSS
RESET


OPT OUT
Q551
Power supply
+B2
OUT
NJU7082BVTE1
IC701
Q603
Muting
Headphones amp.
VR701 (VOLUME)
Q703
Switch-ing
Q601,602
Q701,702
HEADPHONES
Q901,902
D901
Muting cont.
+B1
+B3
Q903
Buzzer amp.
Q904, 951~955
Switching (REMOTE)
Q906,907
AREF
AMUTE
MUTE
RESET
START
S201 (LASER ON/OFF)
OPEN
BLKCK
PDOWN
STAT
MDATA
MCLK
MLD
GUP
11T
FG
PC
BUZ
R CLK
RSENSE
R DATA
XOSCOUT
XOSCIN
LCDREM
BOUT
BATT STROBE
/RESET
SMCK
TXPOWER
M38224M050HP
IC301
SYSTEM CONTROL & LCD DRIVE
START
D301
D302
PLAY
S801 (▶II)
S809 (BATT CHECK)
BATTERY
REPEAT
STOP
SKIP.R
SKIP.F
MEMORY
EQ
SHOCK.P
REST
HOLD
S803 ( )
S802 (■ / OPR OFF)
S807 (⏮/ ◀◀)
S808 (▶▶⏭)
S806 (MEMORY /RECALL)
S805 (EQ)
S804 (A.SHOCK)
S202 (REST DET SWITCH)
OFF
ON
S310 (HOLD)


RS10003E2
IC11
DC-DC CONVERTER
+B5
+B1
+B2
AREF
23
24
AREF
AVcc
MSTAT/ ACDET
15
MCLK/ CHARGE
18
MLD/ VCNT
17
MDATA/ EMP
16
BOUT
34
BOUT
MCLK
MLD
MDATA
SERIAL REGISTER 8 BIT MEMORY
RIPPLE FILTER
CRP
25
D12
DVDD
20
S/P
19
VSEN
4
Q11
Regulator
RECHARGEABLE COMPARATOR/ AMP
EMPTY
REGULATOR RECHARGEABLE LIMITTER
REGB
14
PVcc2
13
JK11
DC IN 4.5V
BATT STROBE
35
STROBE
AMUTE
7
AMUTE
RESET
26
RESET
RESET
IOUT
12
RECHARGE-ABLE
P.GND2
11
LG
10
CT
31
PMCK
21
CLK
TRAINGULAR WAVEFORM
START
8
START
VG
9
VG
VG GENERATOR
PVcc1
3
ICP11
ICNT
6
2 RECHARGEABLE BATTERIES 2.4V
2 R03/LR03(UM-4) BATTERIES 3V
28
EO
29
EI
RESTART
5
SUB UP CONV.
UP CONV.
DOWN CONV.
SHORT
D21
36
SEI
37
VSUB
+B2
SPRT
32
OFF
33
SOFT
27
BATTERY CASE
2 R06/LR06(UM-3) BATTERIES 3V
SSW
SVcc
VADJ
USW
DSW
PREGND
P.GND1
38
39
30
40
2
22
1
VR11 (POWER SUPPLY VOLTAGE ADJ.)
+B3
+B4
VDD
GND
+B3
+B2
+B3
+B3
71
72
30
73
78
79
80
47
2
Vcc
VREF
Vss
AVss
VL3
VL2
VL1
RAMSEL
DOCTOR
M38224M050HP
IC301
SYSTEM CONTROL & LCD DRIVE
RESUME
RANDOM
SEG0~16
COM0~3
ZANSEL
34
35
54~70
74~77
24
NORMAL
S309 (MODE)
LCD301
LCD
Note:
: CD PLAYBACK SIGNAL LINE







Portable CD player A

- Ⓐ Skip/search buttons (⏮, ⏭ ◀◀, ▶▶)
- Ⓑ Memory/recall button (MEMORY/RECALL)
- Ⓒ EQ button (EQ)
- Ⓓ Display
- Ⓔ Battery check button (BATT CHECK)
- Ⓕ Play/pause button (▶ ❚❚)
- Ⓖ Stop/operation off button (■, OPR OFF)
- Ⓗ Repeat button ( )
- Ⓘ Anti-shock button (A.SHOCK)
- Ⓙ Out jack (OUT)
- Ⓚ Optical digital out jack (OPT OUT)
- Ⓛ Hold switch (HOLD)
- Ⓜ Play mode selector (RESUME, RANDOM, NORMAL)
- Ⓝ Headphones jack ( )
- Ⓞ Headphones volume control (VOLUME)
- Ⓟ Open switch (OPEN)
- Ⓠ CD release button (PUSH)
- Ⓡ DC in jack (DC IN 4.5 V)
- Ⓢ Connection terminal for external battery case
- Ⓣ Hole for car insulator mounting screw/external battery case

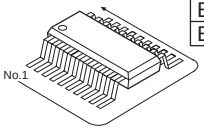
Wired remote control B

- Ⓐ Clip
- Ⓑ Hold switch (HOLD)
- Ⓒ Volume control (VOLUME)
- Ⓓ Plug
- Ⓔ Skip/search buttons (⏮, ⏭)
- Ⓕ Play/stop/off button (■/▶)
- Ⓖ EQ button (EQ)
- Ⓗ Repeat button ( )
- Ⓘ Earphone jack
- Ⓙ Display

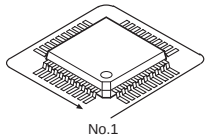
Stereo earphones C

- Ⓐ Plug
- Ⓑ Slider

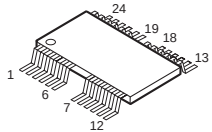
NJU7082BVTE1	8PIN
AN8839NSBE1	28PIN
RS10003E2	40PIN
BH6522FVE2	40PIN
BA6966FVE2	20PIN



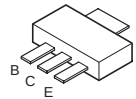
M38224M050HP	80PIN
MN662784SA	80PIN

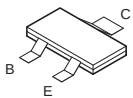


M51V7400D1FS



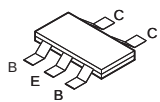
2SB1132T100



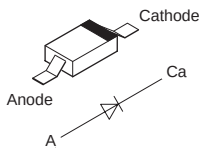


2SB709ATX
2SB1218ATX
2SD1328TX
2SD1819ATX
DTA114YUA106
DTA143EUA106
DTA144EUA106
DTC114EUA106
DTC144TUA106
UN5213TX

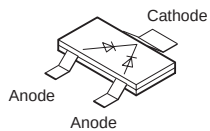
XN1210TX
XN1215TX



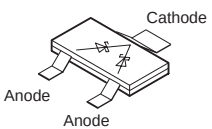
MA111TX



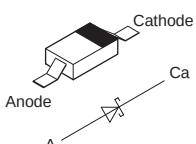
MA142WKTX



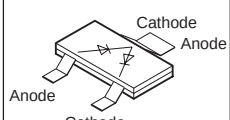
MA741WKTX

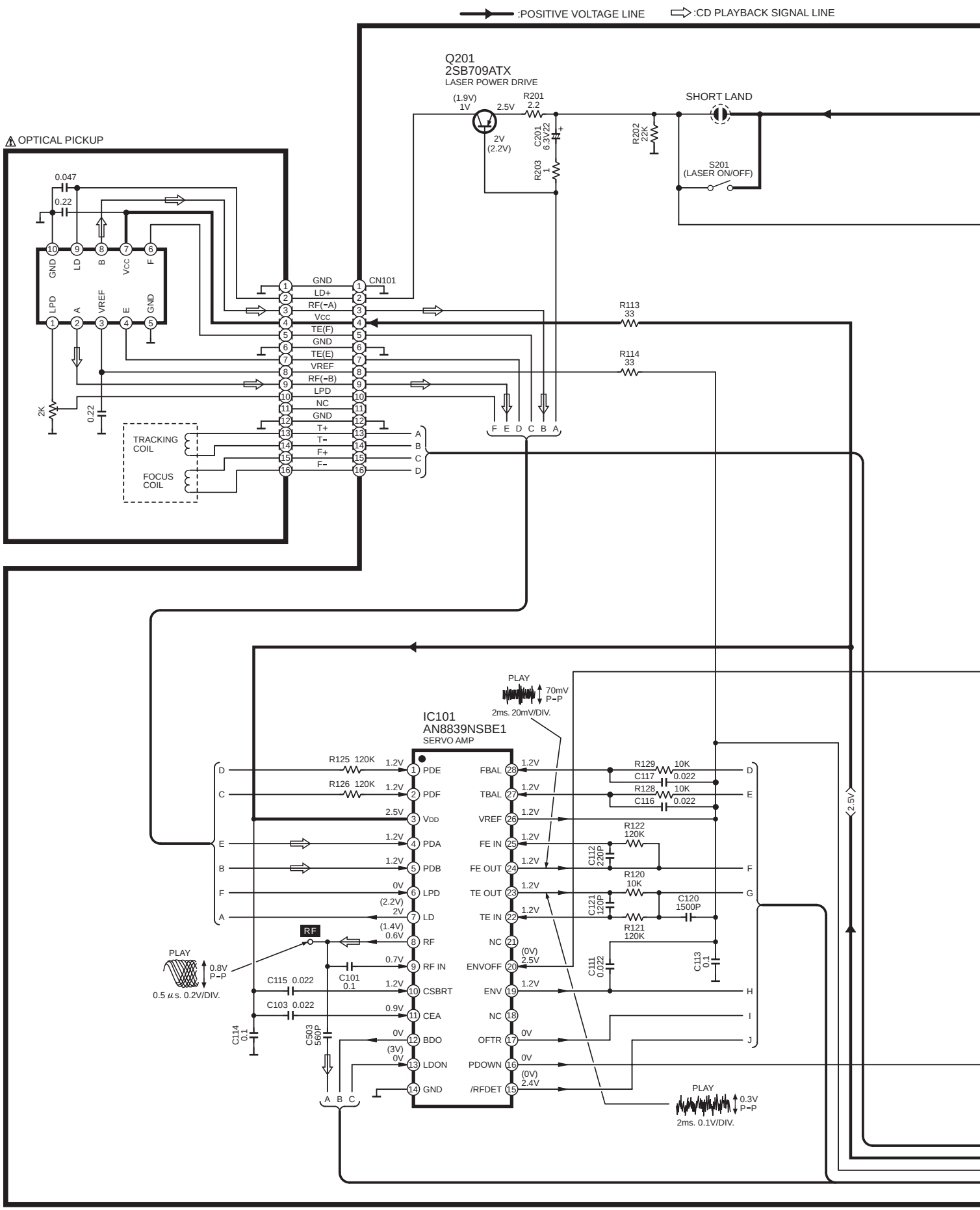


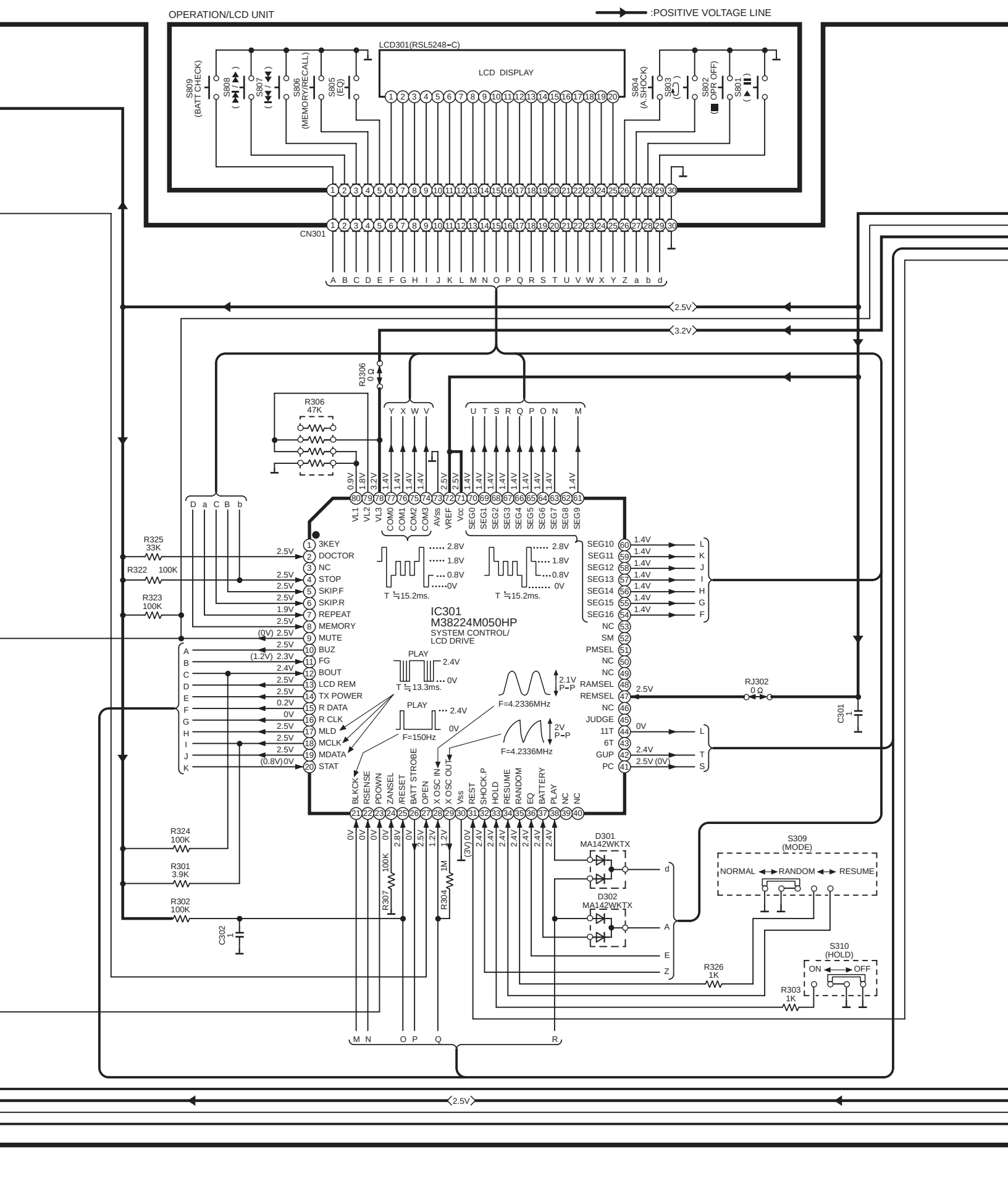
MA1070400L

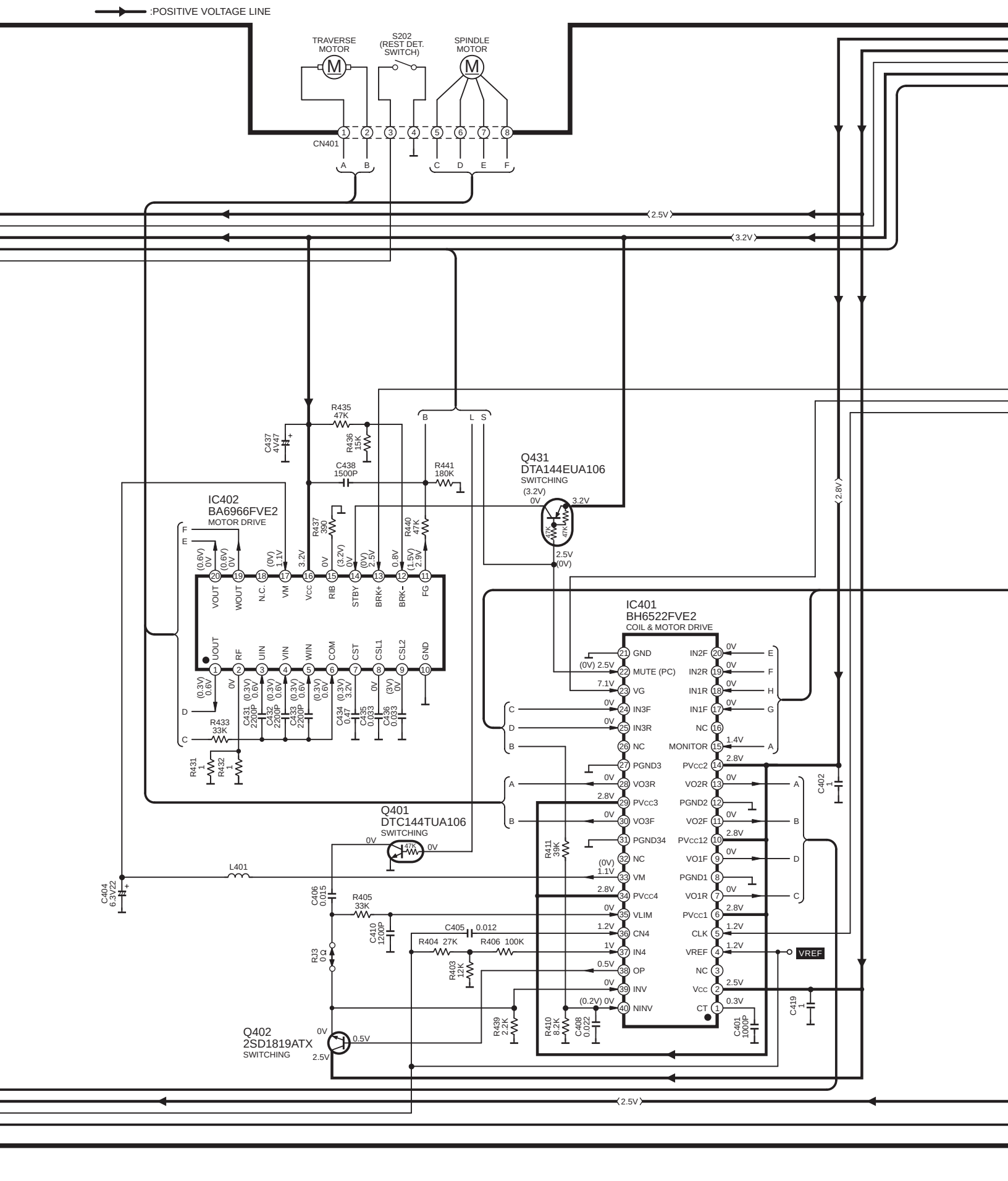


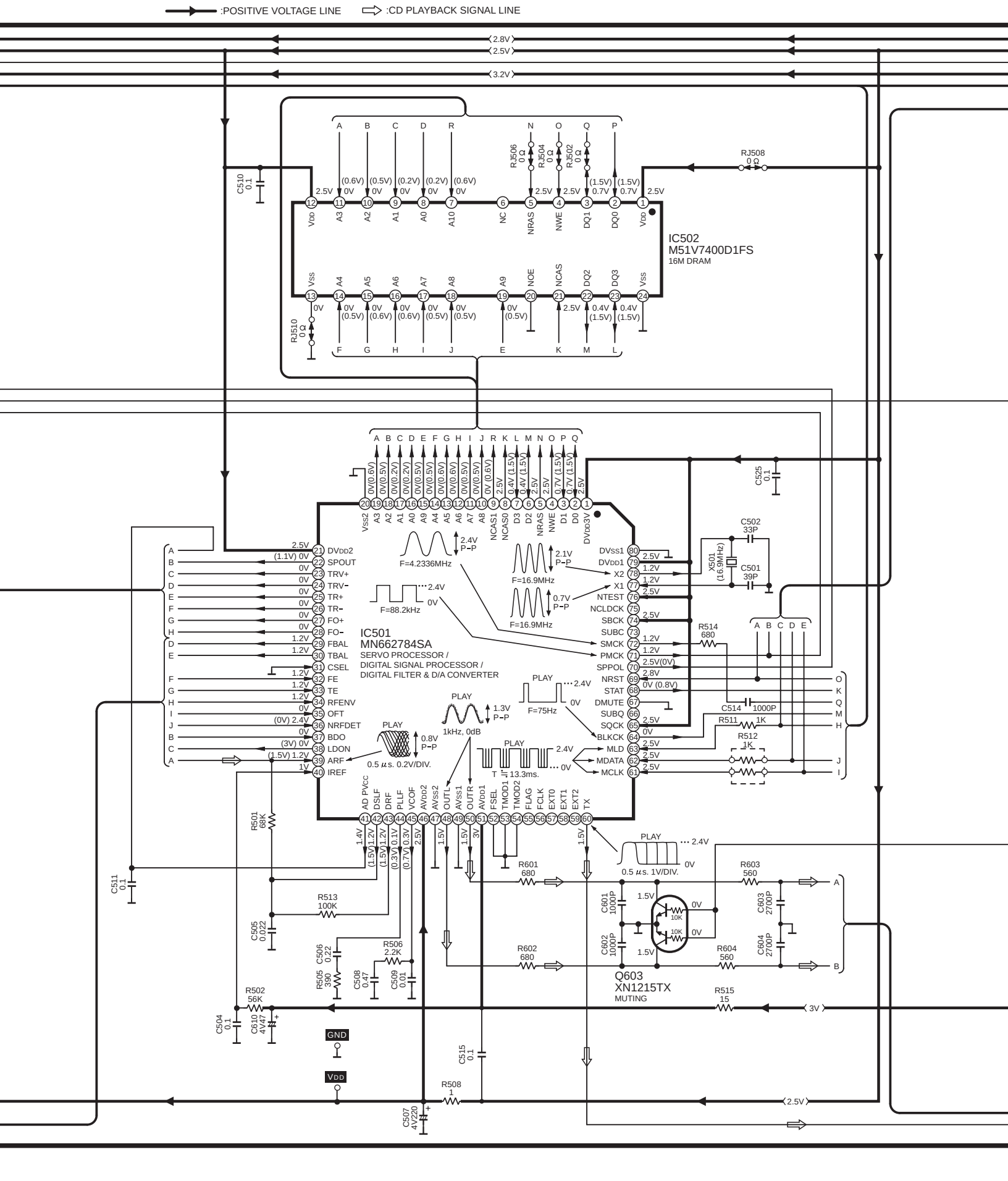
MA143TX



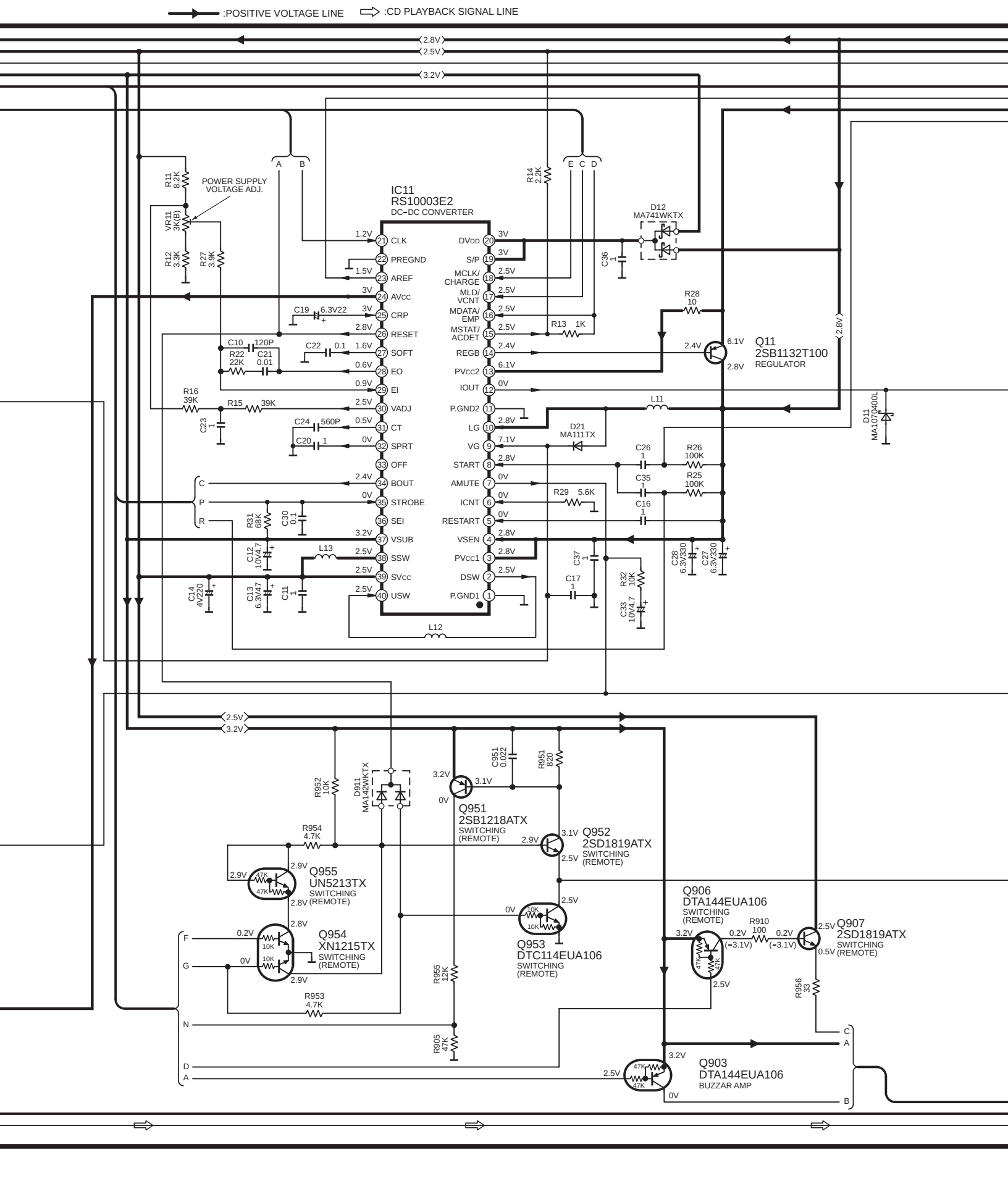

:POSITIVE VOLTAGE LINE
:CD PLAYBACK SIGNAL LINE
Q201
2SB709ATX
LASER POWER DRIVE
SHORT LAND
S201
(LASER ON/OFF)
OPTICAL PICKUP
CN101
TRACKING COIL
FOCUS COIL
IC101
AN8839NSBE1
SERVO AMP
PLAY
2ms. 20mV/DIV.
0.5 μs. 0.2V/DIV.
2ms. 0.1V/DIV.
RF

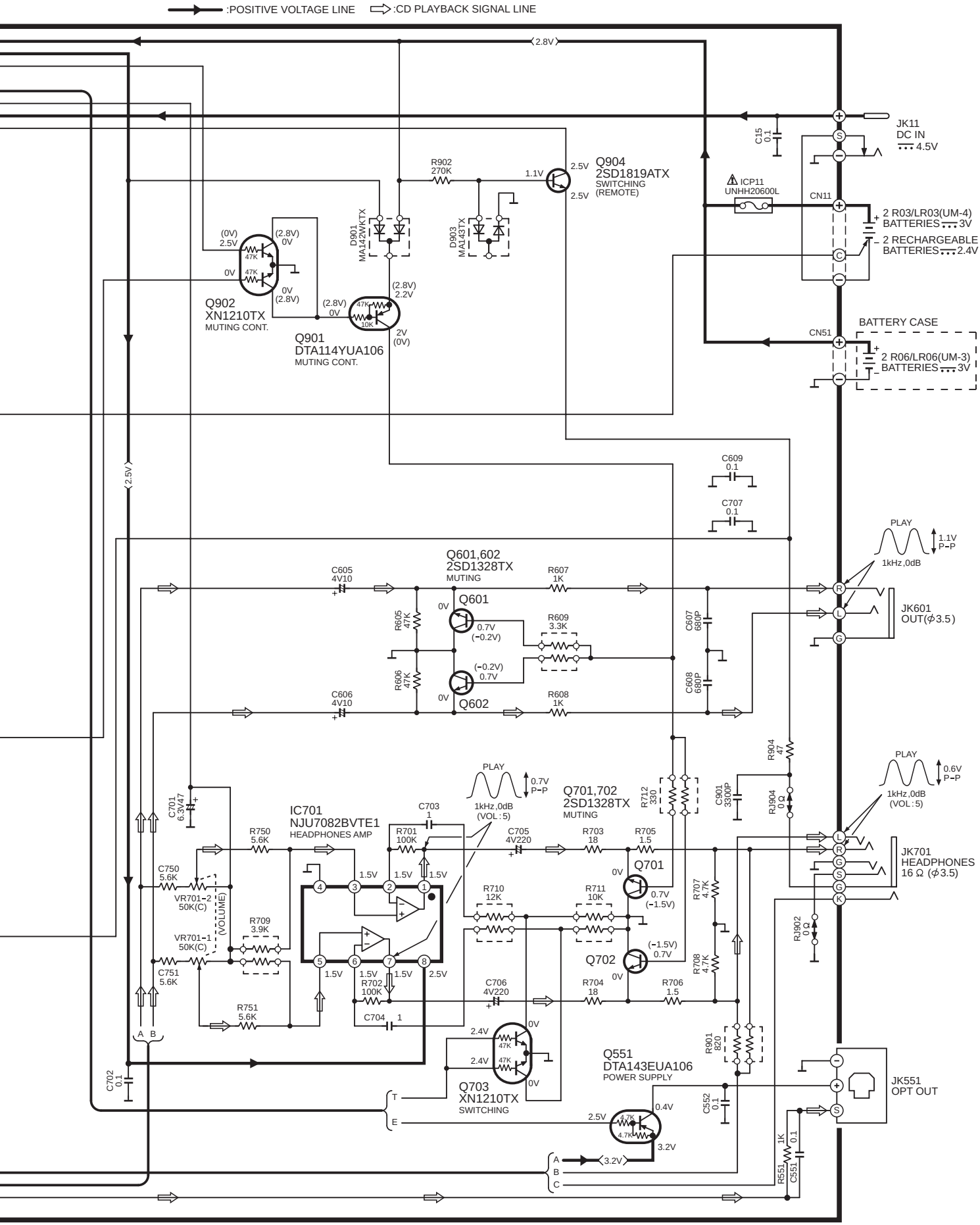

OPERATION/LCD UNIT
:POSITIVE VOLTAGE LINE
LCD301(RSL5248-C)
LCD DISPLAY
S809 (BATT CHECK)
S808
S807
S806 (MEMORY/RECALL)
S805 (EQ)
S804 (A.SHOCK)
S803
S802 (OPR OFF)
S801
CN301
2.5V
3.2V
R306 47K
R3306 0Ω
R325 33K
R322 100K
R323 100K
R324 100K
R301 3.9K
R302 100K
R307 100K
R304 1M
R326 1K
R303 1K
C302 1
C301 1
RJ302 0Ω
IC301
M38224M050HP
SYSTEM CONTROL/
LCD DRIVE
3KEY
DOCTOR
NC
STOP
SKIP.F
SKIP.R
REPEAT
MEMORY
MUTE
BUZ
FG
BOUT
LCD REM
TX POWER
R DATA
R CLK
MLD
MCLK
MDATA
STAT
SEG10
SEG11
SEG12
SEG13
SEG14
SEG15
SEG16
SM
PMSEL
RAMSEL
REMSEL
JUDGE
11T
6T
GUP
PC
BLKCK
RSENSE
PDOWN
ZANSEL
/RESET
BATT STROBE
OPEN
X OSC IN
X OSC OUT
Vss
REST
SHOCK.P
HOLD
RESUME
RANDOM
EQ
BATTERY
PLAY
D301 MA142WKTX
D302 MA142WKTX
S309 (MODE)
NORMAL
RANDOM
RESUME
S310 (HOLD)
ON
OFF
F=4.2336MHz
F=150Hz
T ≒15.2ms.
T ≒13.3ms.


:POSITIVE VOLTAGE LINE
TRAVERSE MOTOR
S202 (REST DET. SWITCH)
SPINDLE MOTOR
CN401
2.5V
3.2V
2.8V
R435 47K
R436 15K
C437 4V47
C438 1500P
R441 180K
B
L
S
Q431
DTA144EUA106
SWITCHING
IC402
BA6966FVE2
MOTOR DRIVE
VOUT
WOUT
N.C.
VM
Vcc
RIB
STBY
BRK+
BRK-
FG
R437 390
R440 47K
UOUT
RF
UIN
VIN
WIN
COM
CST
CSL1
CSL2
GND
R433 33K
R431 1
R432 1
C431 2200P
C432 2200P
C433 2200P
C434 0.47
C435 0.033
C436 0.033
IC401
BH6522FVE2
COIL & MOTOR DRIVE
GND
MUTE (PC)
VG
IN3F
IN3R
NC
PGND3
VO3R
PVcc3
VO3F
PGND34
NC
VM
PVcc4
VLIM
CN4
IN4
OP
INV
NINV
IN2F
IN2R
IN1R
IN1F
NC
MONITOR
PVcc2
VO2R
PGND2
VO2F
PVcc12
VO1F
PGND1
VO1R
PVcc1
CLK
VREF
NC
Vcc
CT
C402 1
C419 1
C401 1000P
C408 0.022
C410 8.2K
R411 39K
Q401
DTC144TUA106
SWITCHING
L401
C404 6.3V22
C406 0.015
R405 33K
C410 1200P
C405 0.012
R404 27K
R406 100K
R403 12K
RJ3 0Ω
R439 2.2K
Q402
2SD1819ATX
SWITCHING
VREF


:POSITIVE VOLTAGE LINE
:CD PLAYBACK SIGNAL LINE
2.8V
2.5V
3.2V
IC502
M51V7400D1FS
16M DRAM
IC501
MN662784SA
SERVO PROCESSOR /
DIGITAL SIGNAL PROCESSOR /
DIGITAL FILTER & D/A CONVERTER
Q603
XN1215TX
MUTING
F=4.2336MHz
F=88.2kHz
F=16.9MHz
F=16.9MHz
F=75Hz
1kHz, 0dB
0.5 µs. 0.2V/DIV.
0.5 µs. 1V/DIV.
T = 13.3ms.
PLAY
GND
VDD

:POSITIVE VOLTAGE LINE :CD PLAYBACK SIGNAL LINE




:POSITIVE VOLTAGE LINE
:CD PLAYBACK SIGNAL LINE
2.8V
2.5V
JK11
DC IN
4.5V
C15
0.1
ICP11
UNHH20600L
CN11
2 R03/LR03(UM-4)
BATTERIES 3V
2 RECHARGEABLE
BATTERIES 2.4V
BATTERY CASE
CN51
2 R06/LR06(UM-3)
BATTERIES 3V
R902
270K
Q904
2SD1819ATX
SWITCHING
(REMOTE)
1.1V
2.5V
D901
MA142WKTX
D903
MA143TX
(0V)
2.5V
(2.8V)
0V
47K
0V
(2.8V)
Q902
XN1210TX
MUTING CONT.
(2.8V)
0V
(2.8V)
2.2V
47K
10K
2V
(0V)
Q901
DTA114YUA106
MUTING CONT.
C609
0.1
C707
0.1
PLAY
1.1V
P-P
1kHz,0dB
Q601,602
2SD1328TX
MUTING
C605
4V10
R607
1K
Q601
0V
R605
47K
0.7V
(-0.2V)
R609
3.3K
C607
680P
(-0.2V)
0.7V
R606
47K
C608
680P
0V
Q602
C606
4V10
R608
1K
JK601
OUT(φ3.5)
R904
47
PLAY
0.6V
P-P
1kHz,0dB
(VOL:5)
C901
3300P
RJ904
0Ω
PLAY
0.7V
P-P
1kHz,0dB
(VOL:5)
Q701,702
2SD1328TX
MUTING
R712
330
C701
6.3V47
IC701
NJU7082BVTE1
HEADPHONES AMP
C703
1
R701
100K
C705
4V220
R703
18
R705
1.5
R750
5.6K
C750
5.6K
VR701-2
50K(C)
(VOLUME)
VR701-1
50K(C)
R709
3.9K
C751
5.6K
R751
5.6K
1.5V
2.5V
Q701
0V
0.7V
(-1.5V)
R710
12K
R711
10K
R707
4.7K
Q702
(-1.5V)
0.7V
0V
R708
4.7K
R702
100K
C704
1
C706
4V220
R704
18
R706
1.5
JK701
HEADPHONES
16Ω (φ3.5)
RJ902
0Ω
A
B
C702
0.1
2.4V
47K
0V
Q703
XN1210TX
SWITCHING
T
E
R901
820
Q551
DTA143EUA106
POWER SUPPLY
0.4V
2.5V
4.7K
3.2V
C552
0.1
JK551
OPT OUT
R551
1K
C551
0.1
A
B
C
3.2V